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NEWS

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Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Flying In the Mud
Exposition Jottings
Are We Still Alive?
Russian Competition?
Why People Are
Cold to 'Em
And Don't Forget . . .

Stories of the Week

In Atlantic City, friend of ours phoned another mutual friend. Got a wrong number. Tried again. Same wrong number.

"I'm so sorry," this friend apologized. "I simply can't understand how I could get the same wrong number twice."

"I can't understand it either," muffled a voice on the other end. "We don't have a telephone."

Next morning another of our mutual friends phoned the hero of the above story.

"How do you feel, old pal?" boomed party of the first part. "Great. Wonderful morning, eh?"

"Sorry," came back. "I must have the wrong number."

Pilot of a private company plane, en route to Atlantic City for the Refrigeration and Air Conditioning Industry Exposition, had to make a forced landing (engine trouble) on the New Jersey Turnpike.

Fortunately only one automobile was near, and it had pulled off the road. The airplane pilot got out, and ran over to the auto to get help. A woman debarked from the rear seat simultaneously.

"Don't arrest us, mister," she begged. "That fool husband of mine don't know no better than to get lost and drive into an airport."

Flying In the Mud

Two visitors to the ARI Exposition in Atlantic City got some front-page publicity in the local press—the hard way.

Roland Compton, who piloted a Beechcraft "Bonanza" to the show, and James Howell, his passenger, both of Decatur, Ala., escaped serious injury when the private plane overshot a landing strip at Atlantic City's Bader Field Airport, cleared a bulkhead, and nosed over in back bay mud.

Compton, a member of the air conditioning and refrigeration industry, suffered a broken nose and severe cuts on the face when he struck the plane's instrument board. Howell, who is in the synthetic fiber manufac-

(Concluded on Page 6, Col. 1)

MEETINGS POINT UP '56 TRENDS, PROBLEMS

Warm Air Group RSES Conferences To FTC Readies Final Many New Products Told To Put More Continue, But With Hearing on Trade Some Higher Prices Punch In Selling Absence of Exhibits Rules, RACCA Told Turn Up at Show

NEW YORK CITY—Sales opportunities for residential air conditioning in both the new house and modernization markets can easily, in a few years, reach beyond the billion dollar mark at the retail level, G. W. Denges, president of the National Warm Air Heating & Air Conditioning Association, predicted at the association's 42nd annual convention here recently.

"Too much emphasis cannot be placed," he said, "on the necessity of making available to warm air heating dealers and contractors the required information for satisfactorily designing combination heating and cooling systems for existing homes."

Denges and other speakers at the convention declared that dealers will have to "bear down" on improving their selling techniques if they expect to capture their fair share of the residential air conditioning market.

Estimating that 1,300,000 warm air units will be produced this year, he said this figure

(Concluded on Page 4, Col. 1)

Suit Charges Mfrs., Distributors Favor Discount Houses

CHICAGO — Seeking treble damages totalling \$11,650,000, nine Chicago appliance dealers have filed an anti-trust suit against 12 appliance manufacturers and distributors and two local "discount houses."

They charge the manufacturers and distributors unfairly granted the two retailers discriminatory lower prices, provided them with paid salesmen and demonstrators not available to other dealers, and paid them advertising and other allow-

(Concluded on Page 29, Col. 5)

ASRE Gets Picture of New Cooling Markets

ATLANTIC CITY, N. J.—Varied topics concerning refrigeration and air conditioning were aired when the American Society of Refrigerating Engineers held its 51st winter meeting at the Traymore hotel here Dec. 1 to 3.

It came on the heels of the 9th Exposition of the Air Conditioning and Refrigeration Industry.

In addition to the regular technical sessions and conferences on air conditioning and

(Concluded on Back Page, Col. 1)

ATLANTIC CITY, N. J.—The Educational Conferences which the Refrigeration Service Engineers Society has sponsored for the last several years will be continued again in 1956, but without the educational exhibits by manufacturers that have characterized these Conferences in the interim years between ARI Expositions in the past.

This was announced by the RSES following action by the group's board of directors at the recent annual meeting here.

The Air-Conditioning and Refrigeration Institute and its member manufacturers will continue to lend its help to the

(Concluded on Page 2, Col. 3)

Fedders-Quigan Adds 7.5 Amp Room Unit to 15-Model 1956 Line

NEW YORK CITY—A newly-developed 7.5-ampere, ¾-hp. "Supreme" room air conditioner, which can be plugged into any available 110-volt outlet, was introduced at a special press preview last week by Fedders-Quigan Corp., along with over 15 other models which make up the manufacturer's 1956 line.

The 7.5-ampere Supreme is said to draw only slightly more current than a home refrigerator. The unit still retains all the cooling capacity of comparable standard 12-ampere room air conditioners, the company claims.

"A special Fedders-designed compressor, which provides a high pumping rate at low current output, is the heart of the

(Concluded on Page 13, Col. 1)

NCRSA and Commercial Mfrs. Hear Frozen Food Industry Fixture Ideas

ATLANTIC CITY, N. J.—That the cabinet task force committee of the National Association of Frozen Food Packers has any intention of developing a prototype multi-tiered frozen food cabinet for use in food stores was denied emphatically here recently by George L. Mentley, president of the association.

This is obviously a matter that can be solved only by the refrigeration industry, he told the National Commercial Refrigerator Sales Association at that group's ninth annual convention held during the recent ARI exposition.

(Concluded on Page 29, Col. 3)

ATLANTIC CITY, N. J.—Trade practice rules for refrigeration and air conditioning contractors have been formulated and await final hearing by the Federal Trade Commission, according to FTC Commissioner Robert T. Secrest.

Final public hearings are tentatively scheduled for Jan. 6 in Detroit and Jan. 20 in Washington, D. C., Secrest told the Refrigeration and Air Conditioning Contractors Association at its 10th annual convention held here.

RACCA met at the Ambassador hotel here Nov. 26 to 29 in conjunction with the 9th Expo-

(Concluded on Page 5, Col. 1)

Amana Introducing '56 Conditioner Line At Regional Meetings

ATLANTA—A room air conditioner, with an activated charcoal filter to trap odors and fumes, and which can be timed to turn on and off automatically at pre-set intervals, and a central air conditioning system for a home that the company claims can be installed by a skilled "do-it-yourself" craftsman were among the highlights of the 1956 line of air conditioners introduced here by Amana Refrigeration, Inc.

Other meetings were set for Dallas, Las Vegas, Chicago, and New York.

There are 11 basic models in the company's four product lines which were presented to the first of a series of five regional meetings of Amana distributor sales personnel being held

(Concluded on Page 30, Col. 1)

ATLANTIC CITY, N. J.—There were 13,376 persons registered as attending the 9th Exposition of the Air Conditioning and Refrigeration Industry the week of Nov. 28, and they saw the greatest line-up of products in the history of the event, and those who sell the industry's goods in the field must be well assured that they have plenty of new and improved ammunition with which to go gunning for sales in 1956.

In air conditioning there were many kinds of innovations—primarily ones which would provide greater flexibility and

About the Pictures

This issue has many pages filled with pictures from the 9th ARI Exposition, and we'd like to enter a word of explanation as to why we handle these pictures as we do.

We try to get pictures in as many exhibits as possible, particularly where a tangible product is involved. Picture-taking is concentrated on the newest or most outstanding product or group of products, not on the entire exhibit.

No effort is made to write long explanations to accompany the picture. Those who wish additional information on a particular product should make use of our "Information Center" form through which complete information can be obtained from the manufacturer.

It is a physical impossibility to process and publish all the pictures in a single issue, so there will be more pictures from the Exposition in succeeding issues of the News.

"smaller packages" for both forced air and "wet" systems. There was also "through-the-wall" room air conditioners, and a packaged system that provided hot water for domestic purposes as well as year-round air conditioning.

In commercial refrigeration the marked improvements in refrigerated display fixtures that have been coming up the past few years were very apparent. (A representative of the frozen food industry, which has been vocally critical of fixtures for merchandising their products this year, was taken on a conducted tour of the exhibits and was said to have been dumbfounded by the improved modern display cases that he saw). Improvements and extended services in icemakers were also noted.

Possibly the outstanding improvements were to be noted in the "parts and supplies" exhibits—controls, air moving

(Concluded on Back Page, Col. 5)

WHEN **QUALITY** COUNTS...

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& AIR CONDITIONING
EQUIPMENT



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EMPIRE STATE BUILDING NEW YORK 1, N. Y.
WORKS: READING, PA.

RSES Meeting--

(Concluded from Page 1)

Educational Conferences in a variety of ways, it was stated.

The Conferences will continue to be open to anyone in the industry who will have any interest in attending, it was stated.

No definite announcement as to the dates and programs for the 1956 conferences will be made until the committee in charge, under the guidance of John Spence, service manager for Hussmann Refrigeration, Inc., has met and prepared a program.

It is believed likely that there will be more conferences in the period of a year than there were in the past, and that the scope of the actual conference programs may be broadened.

Numerous changes in the RSES constitution and by-laws were approved by voting delegates, including a "de-segrega-



DIRECTING activities of the Refrigeration Service Engineers Society for the coming year are the above officials elected at the group's Atlantic City convention. Seated (l. to r.) Al. Dellheim, sergeant-at-arms; George R. Klahn, second vice president; J. Marshall Lock, president; Wm. E. Tierney, first vice president; Charles G. Bell, treasurer; H. T. McDermott, secretary; John H. Spence, educational chairman. Standing (front row): Denver Wathan, W. W. Braatz, A. J. Pike, O. W. Brown, Carl Hoeinstein, Wm. V. Peek, Paul Reed; standing (back row): J. Lawrence Hall, Paul Darby, William Emley, and Kenneth Young.

tion" amendment that eliminates the word "white" from the section defining eligibility for membership in the society.

Most of the other changes were of an editorial nature. Provision is now made, however, for a "student" grade of membership instead of the previous

"junior" grade, and for the formation of chapters by students "of a school teaching refrigeration" provided there is no regular RSES unit within 25 miles.

J. Marshall Lock of Toronto, Canada, heads the new slate of officers as president.

Others elected by RSES at its 18th annual meeting are Wm. E. Tierney, first vice president; George R. Klahn, second vice president; H. T. McDermott, secretary; Charles G. Bell (retiring president), treasurer; Al. Dellheim, sergeant-at-arms; and John H. Spence, chairman of the educational and examining board.

New directors include O. W. Brown, Carl Hoeinstein, Paul Darby, William Emley, A. J. Pike, Denver Wathan, and W. W. Braatz. Continuing as directors for another year are J. Lawrence Hall, Wm. V. Peek, and Kenneth Young.

Wind-up technical session of the RSES convention featured a talk on methods of drying systems given by John H. Spence, Hussmann service manager, plus a discussion and demonstration of changing hermetic motor-compressor units in the field by James Black, Philco field service manager.

For drying systems, especially "Freon-22" or "Genetron-141" jobs, Spence urged the use of:

1. A standard vacuum pump instead of a converted refrigeration compressor;
2. Triple evacuation;
3. A dewpoint indicator to show the degree of moisture removal achieved;
4. A drier recommended by the equipment manufacturer to pick up what moisture that still remains.

In his talk Black revealed that the Philco service organization is now replacing the motor-compressor only in 85% of the field service operations which formerly required replacement of the complete sealed system.

"We now give service in 50% of the time normally required, and one man can do in less time what previously required two men," he declared.

"Second call failures are running 80% below those experienced with replacement of complete sealed systems," Black added, explaining that the unit replacement plan virtually eliminates the problems of mishandling and damage in transit encountered with complete systems.

Besides the many advantages offered on in-warranty replacements, the motor-compressor replacement plan has reduced costs 30% to 60% on out-of-warranty jobs, Black revealed.

PROVEN QUALITY

50th Anniversary

BRUNNER

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IDEAL PROFIT COMBINATION FOR 1956!

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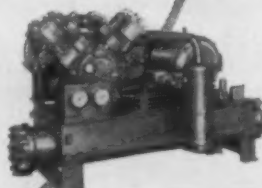
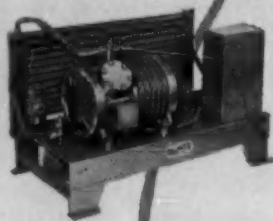
As we approach 1956...our 50th Anniversary year...we pause only momentarily to salute the past.

Our idea of an Anniversary celebration is to make available to you the finest products in Brunner history.

Look to Brunner in 1956 for the most complete line of Open-Type and Brunner-Metic Refrigeration Condensing Units...a full range of Air Conditioning Condensing Units...and the Brunner Warranty Program serviced by 166 Authorized Wholesalers, from coast to coast.

It's your Brunner Product-Service Package for Bigger Profits!

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The Brunner Co., Gainesville, Ga.
In Canada: Brunner Corp. (Canada) Ltd., Toronto, Ontario



Admiral Creates Sales Divisions Headed by 2 New Vice Presidents

CHICAGO—Election of two new vice presidents and establishment of separate sales divisions for electronic products and home appliances was announced recently by Admiral Corp.

George A. Bodem, Admiral distributor in Minneapolis, was elected to the new post of vice president-electronics division, while James R. Oberly, president of Admiral International Corp., was elected to the additional post of vice president-appliance division for the parent company, according to the announcement.

W. C. Johnson, vice president-sales, also announced the resignation of H. D. Conklin as general sales manager.

He said the growing importance of the company's appli-

ance sales, as well as the introduction of additional products in recent years, have made necessary the realignment and division of responsibility. The present 15 regional sales managers will be doubled.

Johnson said the new organizational structure also will be carried out in the field sales force and should be completed by April 1956. Additional regional managers will be recruited shortly for the separate divisions.

Radio and television product managers will report directly to Bodem, while the refrigerator, electric range, freezer, and room air conditioner product managers will report directly to Oberly under the company's new plan.

Deepfreeze Moves All Operations to Chicago, Sells Lake Bluff Plant

DETROIT—Motor Products Corp. here announces the sale of the Lake Bluff, Ill. plant of its Deepfreeze Div. to Goodyear Tire and Rubber Co.

The company discontinued operations in that plant in July, 1955, and transferred machinery and equipment of its North Chicago plant which is now producing those items formerly made at the Lake Bluff plant.

The Deepfreeze Div. continues its production of upright and chest-type freezers, combination freezer-refrigerators, and refrigerators at its North Chicago plant with new models scheduled for introduction in January, 1956, said R. J. Nixon, Motor Products president.

Chris Steenstrup, Hermetic-Sealing Developer, Dies

SCHENECTADY, N. Y.—Christian Steenstrup, retired General Electric refrigeration consultant, who developed the hermetically sealed refrigeration unit and fathered the suggestion award system in American industry, died Nov. 28 at his home here. He was nearly 82.

One of the nation's leading inventors, with 128 patents to his credit, Steenstrup retired from General Electric on Sept. 1, 1945 after 44 years of service during which he headed the company's refrigeration organization and fostered a suggestion award plan which has paid out more than \$6 million to G-E employees.

He held the Modern Pioneer

Award of the National Association of Manufacturers for his hermetically sealed refrigeration unit, and twice received G-E's Coffin Award. One award was for his refrigeration work and another for development of a method of hydrogen brazing which made that process practical for commercial work.

Whirlpool-Seeger Appoints Schulte In Merchandising

ST. JOSEPH, Mich.—Whirlpool-Seeger Corp.'s appointment of Joseph A. Schulte as assistant merchandising manager to Roy Howard, merchandising manager, was announced recently by John A. Hurley, vice president.

Since 1947 Schulte has been associated with Avco Mfg. Corp.; most recently as national advertising manager of appliances for the Crosley-Bendix Div.



MILLIONS OF FEET
of aluminum refrigeration tubing
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Bohn is one of the country's largest producers of seamless aluminum tubing. Equally important, Bohn bulk tubing is the same uniform, high-quality product that goes into Bohn evaporators—used and proven in hundreds of thousands of refrigerators and freezers.

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BOHN'S FLASH-BUTT WELDING of copper to aluminum tubing is the most positive method of making connectors.

Warm Air Group Meeting--

(Concluded from Page 1, Col. 2) would include about 125,000 cooling units for year-round comfort.

While looking forward to a 7½% reduction in new housing starts next year, he declared, "indications are that the furnace replacement and furnace and cooling modernization market can make up for any reduced volume of new housing starts in 1956."

Suggests Research, Bend Efforts to Cooling

Denges suggested to the association's research advisory committee that "we pinpoint all of our research activities and that we bend our efforts very extensively in the direction of cooling."

"I specifically call to the committee's attention the lack of

complete design and installation information covering the modernization market for cooling in connection with the currently installed 13,000,000 warm air heating systems. This modernization market may well prove to be more extensive than the new housing market for year-round conditioning systems."

Denges further suggested that the association's field investigations be limited to the problems involved in connection with heating and cooling tri-level houses and the modernization of existing houses.

Research Most Important Ingredient

"Although research is our most important ingredient," he added, "the approximate 35,000 dealers in our industry also need all of the supporting news-

paper and magazine, television, and radio publicity we can give them. . . . If our industry, and I mean manufacturers, wholesalers, and dealers, would support an enlarged publicity program, I feel sure the volume and profit results would prove to be quite amazing."

K. L. Wilson, manager of the heating controls division of Minneapolis-Honeywell Regulator Co., reported to the association the results of recent interviews his company had made to get current thinking on heating and cooling in 1965.

Manufacturer Looks for New Type Dealer

One heating equipment manufacturer interviewed looked for a new type of heating and cooling dealer to emerge from "today's dealers (who) are depending on price to sell our products."

"He won't have anything to

do with installation and service," this manufacturer said, "but will be interested only in promotion and sales."

Another manufacturer thought the heating industry needed "some leaders—sort of a Big Three like they have in the automobile industry. We also need some dealers who haven't gone soft."

A third manufacturer who also abhorred the present trend to sell price alone, thought the situation could be corrected somewhat with packaged equipment that requires less specialization by the trade.

Wilson said interviews with consumers showed them to be confused about possible developments in cooling and heating but expecting something better and cheaper by 1965.

Little Thought Toward 10 Years from Now

Heating dealers and whole-

salers the interviews found, "were so absorbed in their present day problems that they have little time or inclination to think about 10 years from now. They do not appear willing or able to take responsibility for the future."

"Too often we hear mention of mass production as a means of reducing the cost of residential cooling units, but little or nothing about how to get the American people to spend money for residential cooling instead of for kitchens, color television, or cars."

'Certified' Program Planned

Robert Johnson, president of Automatic, Inc., Chicago, reported that the Air Conditioning Contractors Alliance there is planning a program of "Certified" or "Registered Air Conditioning" for next year.

Under this program, which is still awaiting final approval, Johnson said, "it will be possible for our customers and for the customers of any other cooperation group across the nation to buy a heating or air conditioning job which will conform in all details with the applicable manual of NWAHACA and to have it guaranteed to him by a local group as well as the Sheet Metal Contractors' National Association that it will so conform."

Air Conditioning Will Be Largest Single Influence On Home In Next 50 Years

At the concurrent convention of the National Heating & Air Conditioning Wholesalers, S. J. Levine, general manager of General Electric Co.'s home heating and cooling department, declared that the largest single influence upon American home life in the second half of the 20th century will be air conditioning.

Within the next 10 years, he indicated, some homes will have controlled ideal barometric pressure built in that will help to keep the family in the best psychological state of well-being throughout the year.

Should Stress Health Benefits of Conditioning

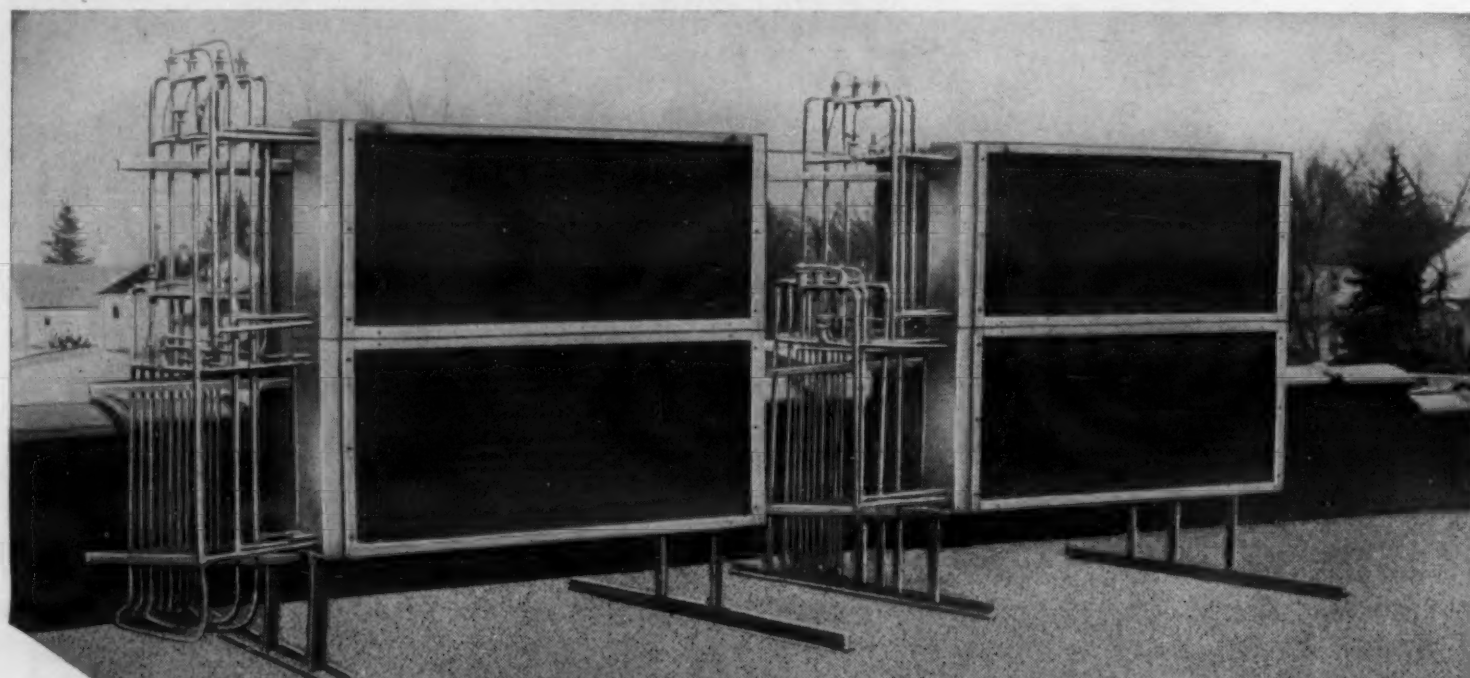
He emphasized to the wholesalers that the health benefits of air conditioning must be stressed in merchandising cooling equipment.

He cited the recent action by the Internal Revenue Bureau to allow tax deductions on cooling equipment for patients suffering heart trouble, asthma, and other diseases as being typical of the significant role that medical authorities now give to air conditioning.

Healthier Standards Prevail In Austin Test

The recent Austin, Texas Air Conditioned Village experiment proved that healthier standards prevail in air conditioned homes.

More recently, statements by doctors following the hot wave records set this summer—in which a 40% increase in the death rate was noted in New York City—indicate the growing awareness among important medical people that air conditioning actually helps individuals stay healthier, more comfortable, and at the same time, more productive, the statement concluded.



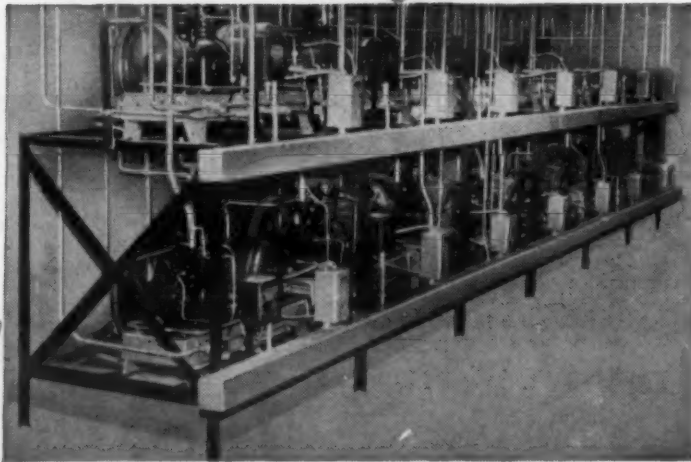
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UNICON FOR SUPERMARKETS

**Serves 14 Compressors
Winter and Summer
WITHOUT ANY WATER***

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WRITE FOR BULLETIN U-291

*UNICON is a Remote-Type Air-Cooled Condenser

KRAMER TRENTON CO. • Trenton 5, N.J.

RACCA Convention --

(Concluded from Page 1)

sition of the Air Conditioning and Refrigeration Industry.

Secrest was one of several speakers who addressed the annual luncheon meeting of the association. Others included Maurice Firestone, field representative of Typhoon Air Conditioning Co.; Victor Nyborg, president, National Association of Better Business Bureaus; Joseph F. Monahan, general organizer, United Association (pipefitters union); and A. M. Palen, retiring RACCA president.

Dudley M. Cawthon of Miami, Fla. was elected president of RACCA for the coming year.

Program chairman for the convention was Harvey W. Hotel.

Reviews FTC Complaint Against Dairies

In his talk Secrest also reviewed briefly the FTC complaints against nine ice cream companies, hearings on which are now in progress.

He made no comment on the cases, however, explaining that it would be illegal for him as an FTC commissioner to do so.

"The FTC is like a grand jury," Secrest explained. "Complaints are investigated and assigned in rotation to individual commissioners, who then recommend what action, if any, should be taken by the commission as a whole."

"When the commission decides to make a complaint, it's turned over to an FTC examiner who acts as a judge. Following hearings, the examiner issues the order which then may be appealed by either the respondent or government attorneys to the FTC. Further appeals may be made to the U. S. Court of Appeals and the Supreme Court," Secrest explained.

Trade Practice Rules Are Interpretation of Law

Regarding trade practice rules, Secrest emphasized that these are not new regulations conceived by FTC but an official interpretation of existing laws.

"FTC rules and the law are identical," he said.

Discussing the current status of the refrigeration and air conditioning contractor "in this expanding market," Firestone of Typhoon wryly remarked, "our 'infant industry' has now grown up into a juvenile delinquent."

Contractors, he said, "lost the initiative" in the recent trend to "mass distribution" of air conditioning.

"However, the dreams of mass distribution through new and synthetic channels have, in some instances, been turned into nightmares, and this may very well present you with the opportunity you need to regain your former position," Firestone told the contractors.

"By all means," he urged contractors, "merchandise your experience, your facilities, your know-how, your organization, your reputation. Certainly price alone is not the answer."

Most of the talk by Nyborg was devoted to the proposed film on air conditioning for television showing that the national

Better Business Bureau plans to produce with the assistance of the air conditioning industry.

Aim of the project, he explained, is to educate the public.

"When a buyer is well informed about a product, he is in a position to detect the pitfalls in questionable offers and he can be more selective in his purchasing," Nyborg asserted.

Industry's Rapid Growth Resulted In Problems

He likened the present problems of the booming air conditioning industry to those that accompanied the mushroom growth of the television industry after the war:

"In city after city, people with no qualifications whatsoever climbed on the bandwagon. Misrepresentation was rampant in their advertising and selling.

Installations were poorly made, and service complaints from the public reached all-time highs in offices of Better Business Bureaus," he said.

United Association Outlines Position

Reviewing the growth of the United Association since it received its charter from the American Federation of Labor in 1911, Monahan told RACCA that the pipefitters union now numbers nearly 250,000.

He re-affirmed the union's offer to give financial support to "anything RACCA thinks is needed for our industry."

Need for intensive training of service and installation men was stressed by Monahan, but he declared that "you can't turn out a serviceman in a 13-week course."

Admitting that the union has been "in a state of flux for the past year due to the illness of

the late Martin P. Durkin, general president," Monahan assured RACCA that "our new general president says he wants the joint committees to start operating again as soon as possible."

Retiring RACCA president, Art Palen, told the group that "we don't want to build a fence around our industry to keep out newcomers, but we believe they should be able to competently install and service refrigeration and air conditioning equipment."

The threat of such newcomers can be lessened, Palen believes, "if we grow with the industry and expand our sales force."

Airtemp Names Distributor

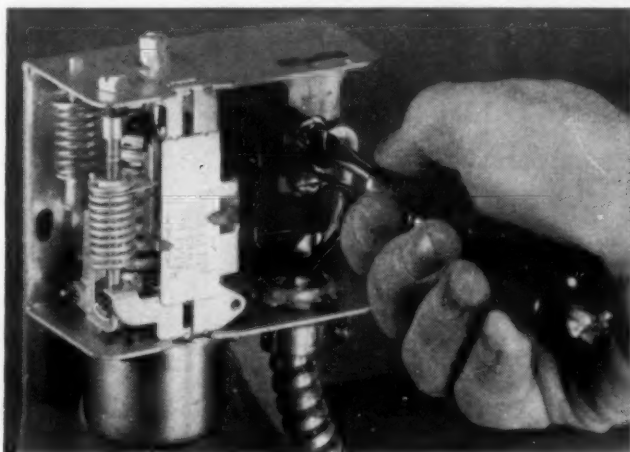
NEW YORK CITY—E. L. Frohlich, president of Warren Connolly Co., Inc. here, has announced the firm's appointment as area distributor for Chrysler Airtemp room air conditioners.

York-Louisville Co. Controlling Interest Sold to Griffin

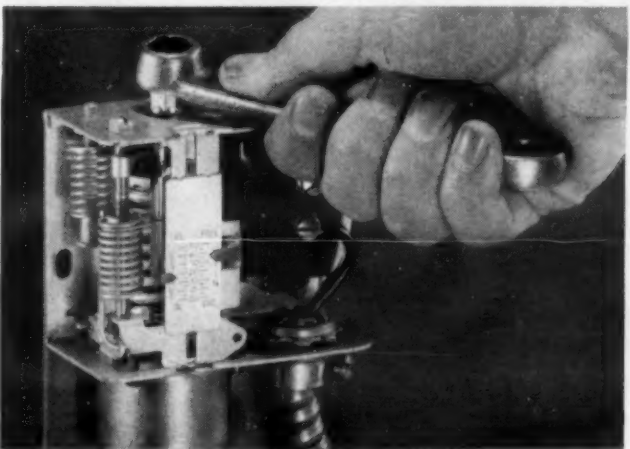
LOUISVILLE, Ky. — A controlling interest in the York-Louisville Co. has been acquired by Griffin & Co., Louisville air conditioning, refrigeration, and engineering firm. Both firms will continue as separate companies. Edward W. Neel, formerly vice president and general manager of York-Louisville, has been elected its president. He has been with the company six years.

Griffin's president, William J. Griffin, has been elected chairman of York-Louisville Co.'s board of directors.

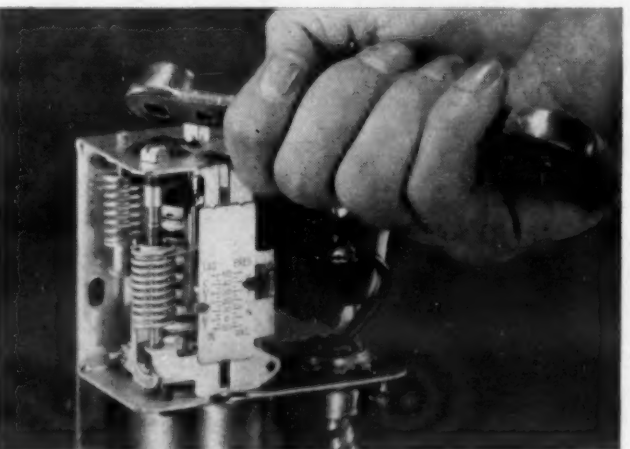
Other officers of York-Louisville company are George W. Spraggins, vice president and Andrew W. Suncan, secretary-treasurer.



1. Mount control (bracket furnished), connect capillary, remove control cover and make 2 electrical connections (terminals are completely accessible).



2. Turn range screw to raise or lower cut-in setting as required (differential does not change).



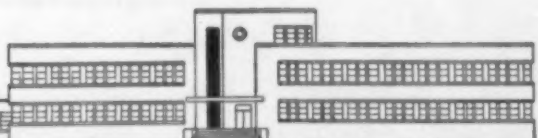
3. Turn differential screw to raise or lower cut-out setting independently of cut-in setting (this widens or narrows differential).

NOTE: Range and differential screws are slotted for screw driver ... square for standard service wrench where space is tight.

SAVE TIME, MONEY WITH PENN SINGLE-POLE REFRIGERATION CONTROL

◀ See how easy it is to install and set the Series 270

So easy to install . . . so easy to set! The Penn Series 270 Single-Pole Refrigeration Control features a simplicity of design that means a big saving of valuable "on the job" time. Mounting and connecting the control is easy, fast. Setting it is even faster. Penn's direct-reading, calibrated scale indicates cut-in and cut-out settings . . . eliminates time-consuming addition and subtraction. What's more, the Series 270 offers outstanding performance at an attractively low cost. Ask your wholesaler about the Penn Series 270 Refrigeration Control. You'll be glad you did. **Penn Controls, Inc., Goshen, Ind.**

PENN  **AUTOMATIC CONTROLS**

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

turing field, was shaken up. They were treated at the local hospital and released.

The pilot explained that he misread the wind direction from an air sock on the airport tower and was trying to land his four-seater, single-engine plane downwind. Damage to the craft consisted of a twisted propeller and a broken undercarriage.

Fortunately, the tide was low at the time—or the mishap would have been more serious. High tide mark at the point shows 5 to 6 ft. of water.

Incidentally, more than 50 planes were moored at the field at the time, most of which had brought persons to the ARI Exposition, it was reported.

Exposition Jottings

Veterans of Many All-Industry Expositions loved this verse by Lloyd Rosefield:

Each time I turn around to find
An old, old friend has called my name

It strikes me strange how he
has changed

While I myself remain the same.

Seems like nearly everybody read "Dope's" item about his slow reaction-time on names at big conventions. Result: even oldest and best friends spouted out their names as they reached for handshakes. Thanks, friends!

Thanks a million, also, to the dozens we hadn't met previously who made a special point of introducing themselves just to say they read and appreciate "Dope" every week. That's good for our morale—which needs bolstering occasionally.

Exposition Chairman F. G. "Ted" Coggin (Detroit Controls) not only staged the show superbly, but revealed a hidden talent. Matter of fact, we doubt that he realizes he has it himself, even now.

Most of us who've known "Ted" a long while have tagged him as a good salesman, loving husband, great freshwater sailor, and as a delightful "character."

At the huge Atlantic City auditorium he delivered announcements over the public address system in a mellifluous voice which reminded many listeners of Franklin D. Roosevelt's "fireside chat" radio charming.

Good thing for our industry that no NBC or CBS talent scouts heard him.

Atlantic City weather was refreshing. "Senator" Grant Hamilton (BSF and D) fed seagulls by hand. Others rode horseback on the beach, or inhaled sea air on the boardwalk.

Nor were indoor sports neglected. Undisputed champion of the St. Christopher Athletic and Inside Straight Society was Joe Bundy of the Dugan Tubing Co.

Strictly by coincidence Don Petrone (Typhoon) and "Dope" arrived at one spot wearing almost identical suits, topcoats, and haberdashery. Wisecracked a bystander:

"You fellows attend the same sale?"

Bob Hood, Len McKesson, and George Vermilye are proud that an Ansul factory employe (never played college football) is a star kicker for the Green Bay Packers. Name: John Deschaines.

Speaking of football, Wid Siegfried (Superior Valve) admires his daughter's confident aplomb. Susan, a freshman at Michigan State, told Daddy she'd be home for Christmas instead of accompanying her team to Pasadena.

"We'll be in the Rose Bowl again when I'm a junior," she wrote Wid. "I'll get more out of the trip then."

Are We Still Alive?

Sleepily we answered the phone in our Haddon Hall (Atlantic City) hotel room.

"This is the cashier. Are you

still there, or did you check out yesterday?"

Took us quite aback. Still groggy from accumulated lack of sleep, we took a look into the bathroom mirror.

Yep. Still alive. Homely as usual, but no ghost!

Russian Competition?

East German Communist officials announce they have stopped production of household refrigerators. Said the refrigerators "got hot like stoves," it was reported.

Why People Are Cold to 'Em

Excerpted from a letter to Dope:

"It is exasperating to read about the sales of unit (window type) air conditioners, and the slow public acceptance of them, without giving at least a little

consideration as to why these sales are not skyrocketing.

"For several years I have enjoyed the use of three such air conditioning units. But I had to find by searching diligently where to buy them. No advertisement told me that no water was required in their operation, nor how much current was required for starting and running the unit, or if maintenance was required, or filters should be replaced and how often, or how long a life I should expect from the units, or if they could be left in place through the cold months, or if they lowered the humidity, or if they gave people colds.

"It seems to be erroneously assumed by the trade that the public somehow knows all these things. From hundreds of inquiries from my friends and business acquaintances I know that the public is almost completely uninformed about these

items. There is an enormous sales potential waiting for the time when somebody decides to let the general public know all the facts about these units. Until then there will be the "dumping" and profit loss sales that in my opinion are the result of failure to advertise these items informatively.

FRANCIS J. CLEY

And Don't Forget . . .

About the best way to solve your problem is to swap it with the other fellow. He always knows how to solve every problem except his. —Breckenridge Banner.

If most of us practiced what we preached, we'd work our fool selves to death.—MARY LOUISE WRIGHT.

Give some people an inch and they think they are a ruler.

NOW! REYNOLDS EXPANDED FINISHING FACILITIES

Assure Even Finer Finishes For Aluminum Appliance Parts

MECHANICAL • CHEMICAL • ELECTROLYTIC • PAINT FILMS



Here, refrigerator evaporators are being anodized at a Reynolds plant. Reynolds modern electrolytic finishing equipment is used extensively by appliance manufacturers for highest quality plain and color anodizing. Color anodizing by Reynolds is currently adding tremendous sales appeal to refrigerator evaporators, shelves, pans and trays; range escutcheon plates and aluminum trim parts.

The aluminum appliance parts you are designing now can be finished to meet your requirements by Reynolds Aluminum Fabricating Service—and here's why:

Reynolds existing extensive finishing facilities are currently being augmented by today's latest automatic finishing equipment. This tremendous investment by Reynolds offers you finishing facilities unsurpassed anywhere. It assures you finer finishes on the aluminum appliance parts you design. Gives you new flexibility in your design thinking. And—these new expanded facilities are backed by Reynolds years of technical experience with practically every

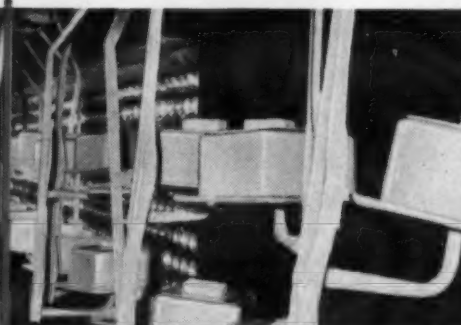
finishing process and technique applicable to aluminum . . . and by Reynolds famous quality control from mine to finished product.

For the highest quality from start to "finish", let Reynolds fabricate and finish your aluminum parts.

For full details on the many types of mechanical, chemical, electrolytic and paint film finishes that Reynolds offers and on the many other services offered by Reynolds, call the Reynolds office listed under "Aluminum" in your classified telephone directory. Or write Reynolds Aluminum Fabricating Service, 2053 South Ninth Street, Louisville 1, Kentucky.



Buffing, here on deep well cookers, is one type of mechanical finish available from Reynolds. Scratchbrushing, satin finishing, highlighting, embossing and other finishes are also available.



Reynolds can paint entire parts a solid color, mask and paint or do paint filling in combination with mechanical finishing to supply practically any desired texture or highlighting effect.



Alodine system at Reynolds is adaptable to immersion, spray or brush type finishing. Etching, brightening and other chemical finish treatments are also available at Reynolds.

See Reynolds New Program "Frontier"—Sundays on NBC-TV.

REYNOLDS ALUMINUM

BLANKING • EMBOSSING • STAMPING • DRAWING • RIVETING • FORMING • BRAZING

For more information about products advertised on this page use Information Center, page 24.

Frigidaire Develops 3-Point Trade-In Allowance Plan To Help Dealers Boost Replacement Sales

DAYTON—In an effort to help its dealers increase major appliance replacement sales, Frigidaire Div. of General Motors Corp. has developed a new plan for figuring trade-in allowances, according to W. F. Switzer, merchandising manager.

Called the "True-Value Appraisal Guide," it was announced to the national dealer organization in conjunction with the 1956 product preview meetings held in 41 key cities across the country.

Switzer said the plan is based on the age of the product being traded in, resale demand for products of its size, design and brand, and condition of the trade-in.

"Unlike 'blue books' which list specific prices on used

products, the Frigidaire guide is a flexible method designed to permit the dealer to adjust for local market conditions when appraising trade-ins," it was explained. "At the same time it provides a standard basis from which his entire sales force can compute allowances."

Field tested for the past six months by representative dealerships in various sections of the country, the guide has been given enthusiastic endorsement by salesmen and dealers alike, Switzer said. He pointed out that it not only establishes realistic resale values on used appliances, but promotes aggressive replacement selling by taking much of the guesswork out of appraising.

"This orderly, step by step appraisal method arrives at the

value of a used appliance in terms the customer can understand and even determine himself, figuring along with the salesmen," Switzer stated. "It is expected that the guide will instill customer confidence in the trade-in and in turn help stimulate the replacement market."

Pratt Elected To Serve Board of Directors

EVANSVILLE, Ind. — H. Irving Pratt has been elected a member of the board of directors of Servel, Inc., according to Louis Ruthenburg, chairman.

Pratt is chairman of the board of Wall Street Investing Corp., New York City; a director of the Canadian Corporate Management Co., Ltd., Toronto, Ont., Can.; a director of Harrington, Richter & Parsons, New York City; and a partner in Charles Pratt & Co., New York City.

NARDA Meeting To Be Christmas Terms To Up Sales Offered by Kelvinator Dealers

CHICAGO—The 1956 annual convention of the National Appliance & Radio-TV Dealers Association will be held here Jan. 15-17, the group has announced.

On Sunday, Jan. 15, the Merchandise Mart will again be host to the conventioners as it was last summer. Bull sessions, luncheon, and cocktail party will be held on the second floor at the Merchants & Manufacturers Club.

On Monday and Tuesday, the convention site will be the Conrad Hilton hotel. The annual banquet is set for Monday night.

An ambitious women's program will be held in conjunction with the convention. Highlight of this program will be presentation by Westinghouse of a \$500 Christian Dior gown to the winner of the top door prize.

DETROIT—Kelvinator dealers are now offering special Christmas terms on instalment purchases to encourage appliance sales during the holiday season.

The special plan was announced by C. R. Brogan, president of Refrigeration Discount Corp., Kelvinator sales financing subsidiary.

The ReDisCo plan offered by Kelvinator dealers permits the purchaser to select as the due date of the first monthly instalment, any day within two and one-half months (75 days) of the installation date. Thus a homemaker who made a purchase on Nov. 15, 1955 could start payments Feb. 1, 1956.

Only condition governing the special Christmas terms is that the contract must be dated between Nov. 15 and Dec. 24 inclusive, and purchase by ReDisCo dated no later than Jan. 15, 1956.

"This special plan for Kelvinator dealers can pay big dividends if it is put to work immediately," Brogan said. "All of the usual customer and dealer protections available by ReDisCo also apply to contracts written under the special Christmas plan," he said.

Frigidaire To Sponsor Edgar Bergen TV Show Starting Jan. 3 on CBS

DAYTON—Frigidaire Div. of General Motors will sponsor a new Edgar Bergen television show over the CBS network beginning Jan. 3, it was announced by Mason M. Roberts, General Motors vice president and general manager of Frigidaire.

Dummies Charlie McCarthy and Mortimer Snerd will assist the ventriloquist in conducting a quiz type program titled "Do You Trust Your Wife?" The new series which will be filmed in Hollywood will replace "My Favorite Husband" in the 10:30 to 11:00 p.m. EST half hour immediately following "The \$64,000 Question."

The show is a quiz with a new twist. The jackpot question is worth \$100 a week for a year—and a clever or luck couple can win up to \$100,000 spread over a 20-year period. Contestants are husband and wife. The husband must make a choice of whether he will trust his wife to answer the question or try himself.

The high scoring pair each night wins the right to compete for the weekly income jackpot against the previous week's winners. A jackpot couple goes on each week as long as they win and each week that they win adds another year of income.

Accountant Speaks To Richmond ASRE

RICHMOND, Va. — Robert Lechner, a partner in the accounting firm of Mitchell, Wiggins & Smith, spoke on "Fundamentals of Internal Control" at a recent meeting of the Richmond Section, American Society of Refrigerating Engineers.

There's always something new going on for the appliance industry at Reynolds! Here, fabricated by Reynolds, is an aluminum refrigerator door with a handsome embossed pattern and color anodized in rich antique bronze color.

REFRIGERATOR CRISPER PANS

WASHING MACHINE TUBS

REFRIGERATOR EVAPORATORS

ELECTRIC FRYING PANS

RANGE BROILER PANS

FRYER INNER SHELLS

RANGE DEEP WELL COOKERS

EVAPORATORS AND CONDENSERS

REFRIGERATOR SHELVES

Write to Reynolds address on facing page for your free copy of 20-page brochure "Aluminum Appliance Parts."



FABRICATING SERVICE

ROLL SHAPING • TUBE BENDING • WELDING • FINISHING • IMPACT EXTRUDING

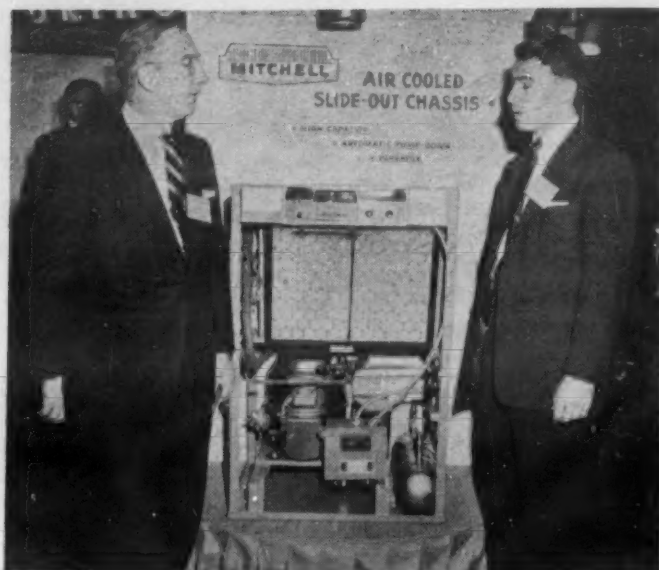
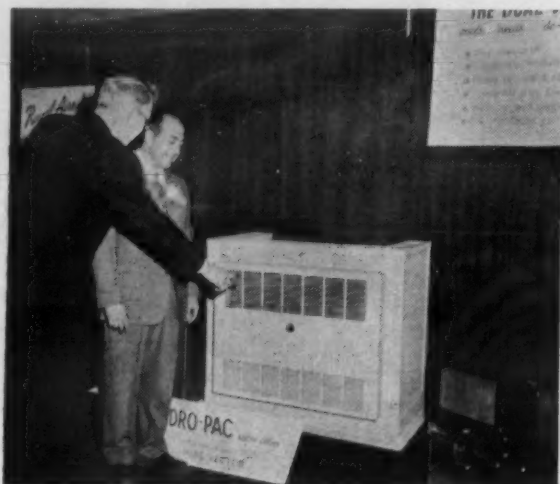
For more information about products advertised on this page use Information Center, page 24.

Exhibits Seen at the ARI Exposition

Pictured on this page, and on pages 9, 10, 11, 12, 15, 18, 19, 21, 22, 23, 24, 25, 28 of this issue of the NEWS are highlights of the 9th ARI Exposition just concluded. More pictures will appear in early issues. For additional information on any of these products shown, use the key numbers together with the Information Center blank on page 24.

KEY NO. E-12283

"DUAL VECTOR" air conditioning unit for use in conjunction with Unarco's "Hydro-Pac" water chiller attracts the interest of E. Ramoneda (right), an air conditioning contractor from Acapulco, Mexico. Phil Bracht of Unarco points out some of the features of the unit.



KEY NO. E-12284

THIS REMOTE-TYPE air conditioning unit (RA-200) with water-cooled slide-out chassis was the focal point for visitors to the Mitchell Mfg. Div., Cory Corp. booth. Here W. N. Kennon, Mitchell Atlanta representative, watches Robert Lodge, Mitchell sales manager, demonstrate the unit.



KEY NO. E-12285

CONDENSING UNIT is housed in the mirror-faced superstructure of Brewer-Titchener Corp.'s new triple deck dairy case, explain Patrick J. Shea, assistant sales manager, and Chester A. Hawkes, chief engineer. The new model has 50% more shelf space and 25% more total volume than the previous model, it was pointed out.



FIRST IN THE FIELD ON EVERY COUNT!

MUELLER BRASS CO.

Streamline®
all-copper adapters

In just one year this new Mueller Brass Co. all-copper adapter has set a smashing record on every count . . . engineering, sales and performance. They are available as copper-to-male and fitting-to-male styles in sizes from $\frac{1}{4}$ " to $2\frac{3}{8}$ ". And, the dependability of this fine STREAMLINE adapter is proved by the fact that over 5 million have been put in service in the short space of one year. Many excellent engineering features have been incorporated in these adapters which are produced from heavy wall copper tube. Threads are rolled rather than machined, actually improving the grain structure of the metal and affording greater strength. The pure wrought copper is superior for soldering because heat is transmitted evenly and quickly. The smooth bore and the precision machined stops permit maximum flow. You'll like these new adapters, and the many advantages they offer . . . and you know these "thoroughbreds" will live up to every claim because they're made by the originators of the solder-type fitting. If it's Streamline, it's got to be good.

FIRST developed by the originator of the solder type fitting

FIRST in sales with a record of over 5 million sold in just one year!

FIRST complete line in both O.D. and fitting ends



KEY NO. E-12286

DUAL-TOWER warehouse dehumidifier, made by Dryomatic Corp., is finding many applications in the warehouse and industrial field, report Walter Bolton and Anthony Haas of Dryomatic, who are pictured here with the unit.



KEY NO. E-12287

POSING BEFORE EMERSON ELECTRIC Mfg. Co.'s new $\frac{3}{4}$ -hp. casement window air conditioner are George E. Hansman, manager of the eastern district (L), and George H. Childers, manager of air conditioning sales. They are holding the six decorator colors that are supplied with all room coolers in the Emerson '56 line except the casement cooler.



KEY NO. E-12288

POINTING TO Acme Industries, Inc. "Flowpack" home packaged air conditioning unit, made in $\frac{3}{4}$, 1, 3, and 5-ton sizes, is R. C. Deeg, sales engineer, OEM division, as Norbert W. Enslin, Enslin Co., Dayton, Ohio, watches.



MUELLER BRASS CO. PORT HURON 9, MICHIGAN

For more information about products advertised on this page use Information Center, page 24.

Pictures from the Exposition

For more information on products shown on this page, use the key numbers and information center blank on page 24.

KEY NO. E-12230

THIS DISPLAY was set up by Detroit Controls Corp. to demonstrate operation of its "Selectaflow" thermostatic change-over valve for year-round air conditioning systems utilizing hot and cold water as a heat transfer medium with a single supply line and a single return line. Discussing the display are J. W. Parrott and O. E. West, Atlanta and Boston representatives, respectively.



KEY NO. E-12234

(Above) ICE MACHINE MAKER which produces up to 2,000 lbs. daily is this "Scotsman Super" model made by American Gas Machine Co. Cabinet at right is "super bin" for storage, featuring automatic control.

KEY NO. E-12235

(Upper right) DISPLAY CASE for frozen specialties is this attractively designed model offered by Frigid Igloo Mfg. Corp. Eleanor Herling ("Miss RACCA") perches on compressor section. Hot-gas defrosting is used.

KEY NO. E-12236

(Lower right) INDICATING the Standard Refrigeration Co. "KY Shell and Tube Condenser," a compact, low-pressure drop, cleanable unit, needing no special tower connections, coming in 1/2 to 5-hp. models, is Dwight Orr, sales representative.



KEY NO. E-12231

THREE-DOOR combination reach-in offered by Jordon Refrigerator Co. has one low temperature compartment, and two regular refrigerated compartments. Especially adaptable to restaurant or institutional use, this particular model is finished in stainless steel. These models are powered by two heavy-duty compressors.



KEY NO. E-12232

SEVERAL CASTINGS are pointed out by Clem Swencki, director of quality control of Superior Foundry, Inc. He is pointing at a compressor body made for Worthington Corp.; right are two Airtemp compressor bodies with cover set below center.



Demand IS FOR

CLEANABLE WATER-COOLED CONDENSERS

1/2 to 25-Ton Capacity

MORE EFFICIENT DOUBLE-TUBE COUNTER-FLOW DESIGN

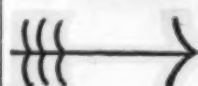
"New unit" efficiency is always maintained with H & M water-cooled Condensers because they are *cleanable*—quickly, economically. Do as the industry does—demand nothing less, for the cost is no more. Write for Catalog.

WHOLESALE IN PRINCIPAL CITIES

Halstead & Mitchell

BESSEMER BLDG. • PITTSBURGH 22, PA.

Selling takes time— **Time** makes selling easy!



To CLINCH more sales in less time, quote a *monthly payment*, not a *total cash price*. Many of your prospects need their working capital and usual lines of credit for current operations. No matter how much they need your equipment, they probably won't sign your order *now* unless you show them a convenient, practical way to pay. That's the COMMERCIAL CREDIT PLAN way. When can we tell you our story? Phone our office in your city or write: COMMERCIAL CREDIT CORP., 14 Light Street, Baltimore 2, Md.



COMMERCIAL CREDIT CORPORATION

A service offered through subsidiaries of Commercial Credit Company, Baltimore... Capital and Surplus over \$180,000,000 ... offices in principal cities of the United States and Canada.



KEY NO. E-1220

ELECTRO-WHEEL self-powered wheel with motor built in center disk was shown in Lau Blower Co. booth by W. H. Wentling, chief products engineer, to Don B. Jensen, sales representative.

What Was New At the ARI Exposition



KEY NO. E-1222

"CHIP-FREEZE" MACHINE shown by Cold Corp. of America, with its waist-level serving feature demonstrated here by Eleanor Herling ("Miss RACCA"), has 560 lbs. daily capacity and a storage capacity of 250 lbs. of chipped ice. The unit is made available in six different colors, to match the interior decoration of any establishment in which it may be installed.



KEY NO. E-1223

REVOLVING DISPLAY showing Virginia Smelting Co.'s new line of scale remover, water treatment, and scale inhibitor, "Algae-Cides," and ice machine cleaner has the attention of Jim Kurker, U. S. Fixtures & Equipment Co., Boston, and A. N. Young of Virginia Smelting.

KEY NO. E-1221

NEW PRESSURIZED OILER was shown visitors by Superior Valve & Fittings Co. Robert W. Sheperdson (center), Standard Supply, Inc., New Canaan, Conn., gets product details from T. E. Cunningham (left), Superior's Pittsburgh district manager, and F. N. Robson, New York district manager.



Back of Airtemp
is Chrysler—
the greatest
name in engineering!

Airtemp

heating + cooling
takes no more than
22" x 30"
of floor space

...with most compact, most flexible
AIRTEMP "Spacesaver" System!

So little floor space is needed (no living area floor space whatsoever!) the Airtemp "Spacesaver" System makes even the very smallest homes prospects for year-round air conditioning. With compact cooling coil mounted on Airtemp furnace (beneath counterflow models), water-attic, crawl space, garage, or outside the house. Available in 2, 3, 5 and 7½ H.P. capacities.

And here's another "Spacesaver" feature you will like! Where you can sell only heating at the outset, decal attached to empty coil housing continues to remind customer that "This is the place for future installation of an Airtemp Cooling Coil". And your identification tells him where to phone when he's ready.

It will pay you to have all of the facts on the franchise that offers you a brighter future in heating and cooling. Write Department AC-12, Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

Airtemp
DIVISION
CHRYSLER CORP.



THE FORWARD LOOK IN

HEATING • AIR CONDITIONING FOR HOMES, BUSINESS, INDUSTRY



KEY NO. E-1224

STARTERS for air conditioning units (3 to 10 tons) in 20-amp and 30-amp ratings were displayed in the General Electric Co.'s Apparatus Div. display with the help of Jen March.



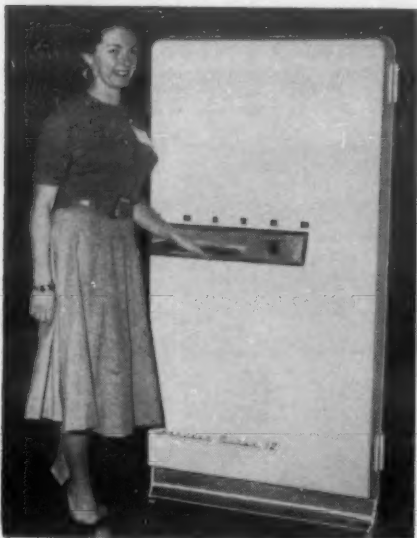
KEY NO. E-1225

CENTERED in the Servel, Inc. booth was this 25-ton packaged absorption water chiller. Don B. Jensen, Lau Blower Co., listens as G. O. Kuhen, left, explains.



KEY NO. E-1226

"HEAT-CEL" defrosting unit, offered by Dole Refrigerating Co., and demonstrated by Shirley Consalvo, performs in any ambient, and is independent of compressor operating time or type.



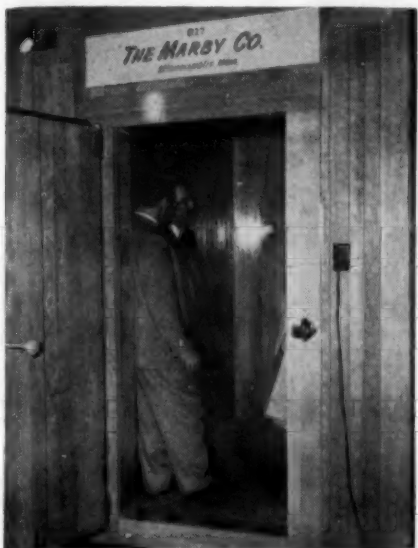
KEY NO. E-1227

NEW FEATURES mark this 12-cu. ft. United Refrigerator Co. freezer with which Marie Sykes poses. Among them is a "soup can" section in the door shelves, to handle the larger frozen soup containers. This model has 4-coil shelves.



KEY NO. E-1228

SPOTLIGHTED for visitors by Gibson Refrigerator Co. was this GAC 761 3/4-hp. Custom room air conditioner which runs on 7.4 amps and 320 w. J. F. Klintworth, sales representative, tells Howard Tiedemann (left) of Tri-County Refrigeration, Inc., Hackensack, N. J., all about it.



KEY NO. E-1229

PRE-FABRICATED sectional walk-in cooler (6 by 8 by 8) shown by The Marby Co. is examined by a couple of Show visitors who "walked right into the product."



KEY NO. E-12210

TWO NEW products are shown by John Trix, sales representative, in the Aminco Refrigeration Products Co. booth. At left is a muffler with oil-removal tube made in sizes from 3/8 through 1 3/8 in. for quieting air conditioning system's noise. Right is a constant pressure valve with settings marked on screw at top.

Pictures from Atlantic City Show

(For additional information on this products use the key numbers and information center blank on page 24 of this issue.)



KEY NO. E-12211

TWO SEPARATE chiller circuits in a single metal cabinet mark this 15-hp. American Coils Co. packaged liquid chiller. Eleanor Herling poses to give some idea of the compact size of the unit, designed for air conditioning and industrial cooling applications.

KEY NO. E-12212

ISLAND frozen food display case, self-contained, shown by Federal Refrigerator Co., is built for easy self-serve operation.



KEY NO. E-12213

HOLDING center stage in Frick Co.'s booth was this 9-cylinder Eclipse compressor. From left H. S. Milliken, Precision Tube Coil, Inc., North Wales, Pa., refrigeration systems wholesaler and M. B. Watts of Frick, listen to B. E. James, Frick sales representative, outline unloading feature of the unit.



a VIKING tradition

Strength of body . . . strength of character . . . were the qualities by which the Vikings measured a man. To win recognition, the Vikings of old therefore proved themselves through extraordinary feats of strength and endurance. One of the traditional tests was the distance throwing of the heavy Viking spear . . . because on this ability life itself often depended.

Today, in the commercial refrigeration and air conditioning industry, the name VIKING has become synonymous with strength and durability in copper tubing. Through its quality and precision VIKING copper tubing has set a standard for the industry . . . and VIKINGcraftsmen, true to the tradition of their namesakes work constantly to produce the very finest copper tubing . . . a tubing worthy of the name VIKING!



VIKING

copper tube co.

CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER AND ALUMINUM TUBING

EXTRA STRENGTH

The proper kind of strength and ductility is vital in tubing used for refrigeration and air conditioning purposes. Copper tube possesses these qualities to a far greater degree than other types of tubing. Its uniform temper assures trouble-free fabrication.

EXTRA FLEXIBILITY

Viking Copper Tube is soft and pliable, yet exceedingly rugged. It saves time and labor because it can be coiled, formed, flared and expanded quickly without danger of fracturing or splitting.

CLEAN AND DRY

Viking Copper Tube is triple-sealed at the ends, stays dry and absolutely dirt-free. The seal is made to pass through any opening large enough for the tube itself. It's clean . . . it's bright . . . it's dry!

For more information about products advertised on this page use Information Center, page 24.



KEY NO. E-12253

HALF-DOME and "Twin Power Pack" cooling coils made by Peerless of America, Inc. for use in two-way reach-in refrigerators or beverage refrigerators are demonstrated by M. W. Knight of Peerless to Barbara Jo Smith.

Some of the Highlights Visitors Saw at the 9th ARI Exposition



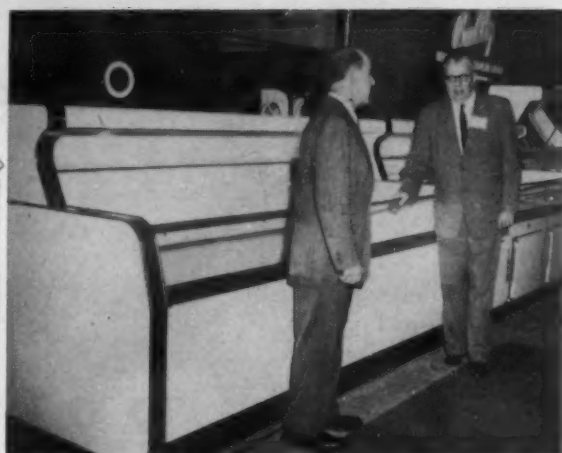
KEY NO. E-12254

"INSIDE OUTSIDE" electric motor, in which the usual positions of the rotor and stator are virtually reversed, is new development by Delco Products Div.



KEY NO. E-12257

FIRST SHOWING of Frigidaire model CWLV300 low temp 3-ton compressor was viewed by George Diven of McCarty Bros. Equipment Co., River Forest, Ill., as G. T. Federspiel of Frigidaire Div., General Motors Corp. explains the commercial freezer case.



KEY NO. E-12255

FRONT-LOADING, double-duty meat case for pre-packaged meats, joined with an automatic defrosting freezer, both equipped with merchandiser canopies, attracted attention in the space of Bally Case & Cooler Co. Leon Price, general sales manager, and A. J. Van Wie, district sales manager, pose with the display.



KEY NO. E-12258

SUCTION-COOLED 10-hp. motor compressor, especially adaptable to air conditioning and other high suction pressure applications, occupied the top spot in the Copeland Refrigeration Corp. W. G. van Meyer, Copeland sales manager, points to suction cooling area in the 10-hp. model.



KEY NO. E-12259

FIRST SHOWING of Victor Products Corp.'s new reach-in 20-cu. ft. refrigerator (the shell of a Victor freezer was altered to make this demonstrator) was presided over by A. B. McKinley, commercial sales manager of the company.



want to get
inside a
hermetic
unit?



there's nothing
easier...or
less expensive
...than an
Access Tee
by



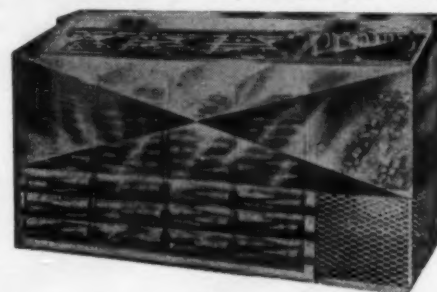
Superior
valve & fittings co.
pittsburgh 26, pa.



KEY NO. E-12256

"OLIN ROLL-BOND" is the new name which Olin Mathieson Chemical Corp. has given its patterned metal used in heat transfer work.

"A CASE OF COOL JUDGMENT"



**FLO-COLD
DRINKMASTER
STAINLESS STEEL
CUBER-COOLER.**

SOLD THRU DEALERS ONLY

WRITE

**United Friguator Engrs.
MENOMINEE, MICH.**

AVAILABLE IN SIZES 4 TO 10 FT.

TROUBLE FREE AUTOMATIC STARTERS

Only ONE Moving Part—No Contact Maintenance

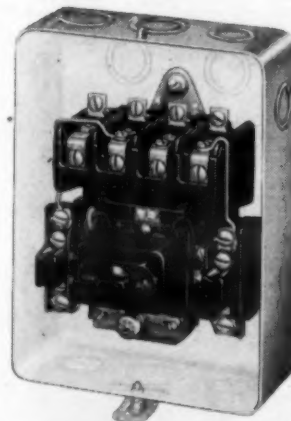


Bulletin 709 Form 3 Starter
in NEMA Type 1 General
Purpose Enclosure

Only ONE Moving Part . . . that is the secret of the trouble free, dependable service of these Allen-Bradley solenoid starters. No pivots, no pins, no bearings, no hinges to corrode and stick. No jumpers to break. No contact maintenance, because the double break, silver alloy contacts need no cleaning, filing, or dressing. You just install A-B solenoid starters . . . and forget them. For full information about ratings, enclosures, etc., send for Bulletin 709.

Allen-Bradley Co.
1313 S. First St.
Milwaukee 4, Wis.

In Canada—
Allen-Bradley Canada Ltd.
Galt, Ont.



Open View of Bulletin 709
Form 3 Starter Showing
Selector Switch

ALLEN-BRADLEY MOTOR CONTROLS for Air Conditioning and Refrigeration • Manual and automatic across-the-line starters • Compression type velvet smooth starters • Pressure and temperature switches and controls • Relays and contactors from 1 to 8 poles • Push buttons and selector switches.



ALLEN-BRADLEY
QUALITY
MOTOR CONTROL



New Fedders-Quigan Line--

(Concluded from Page 1)

new model," it was pointed out. "Around this compressor Fedders engineers developed a balanced system of condenser and evaporator components, considerably larger than those in the standard 12-ampere air conditioners."

Feature Is Low Starting Current Requirement

The company said another feature of the Supreme is its low starting current requirement. The unit is equipped with an automatic thermostat, two-speed fan motor, six-position pushbutton switch, and is custom trimmed.

Salvatore Giordano, president of Fedders-Quigan, said the Supreme "was designed to break the 'wiring barrier' of the nation." With this new unit, the company's dealers can sell to markets previously unavailable, he declared.

Firm Devoting over 25% Of Facilities to Unit

Giordano said the company is devoting over 25% of its total production facilities to the manufacture of these 7.5-ampere $\frac{3}{4}$ Supreme units.

The 1956 Fedders line also features an "Electronic Purifier," available in several models. The Purifier is an electrostatic filter which is claimed to remove up to 300% more dust pollen and foreign particles from the air than the conventional filter. It also effectively removes smoke from the atmosphere," Fedders said.

In addition to the $\frac{3}{4}$ Supreme, the Electronic Purifier models, and a $\frac{1}{2}$ -hp., 7.5-amp. unit, a number of models utilizing the standard ampere circuits have been introduced.

Other New Models Listed

In "DeLuxe" and "Custom" series there are $\frac{3}{4}$, 1, $1\frac{1}{2}$, and 2-hp. units available. Four case-ment models in the $\frac{1}{2}$ and $\frac{3}{4}$ size are in production, as well as a $\frac{3}{4}$ -ton "Lo-Boy" (free-standing or recessed room unit) and a heat pump unit.

Units may be obtained with a variable mounting development, called "Flexi-Mount" which permits installation in any one of eight positions from flush with the interior wall to flush with the exterior wall. Both Custom and DeLuxe models feature concealed "Weather Bureau" controls.

All Units Equipped With "Weather Wheel"

All 1956 Fedders units are equipped with the rotating "Weather Wheel," an arrangement which permits full 360° control of the direction of air flow.

Describing the reverse cycle 1956 "Customatic" model room air conditioning window units, the company said a newly-developed "automatic defrost cycle" built into the unit prevents icing up.

"The power heat pump automatically defrosts itself, and can draw heat out of outside air even in 10° temperature," it was stated.

"The desired room temperature is set on a manually ad-

justed thermostat on the Customatic's control panel. The reverse cycle heat pump then draws the required amount of heat out of the outside air and pumps it into the room.

If Sufficient Heat Can't Be Obtained, First Stage Begins To Operate

"If sufficient heat cannot be obtained from the outside, the first leg of a 3,000-watt two-station heating coil goes into operation. This 1,000-watt first stage, combined with the heat produced by the reverse cycle heat pump provides the required heat.

"If outside temperatures are such that the heat production of the reverse pump and the first leg of the coil is still insufficient, the heat pump cuts out automatically and the sec-

ond 2,000-watt leg of the heating coil is put into use.

"The heat from the coil is circulated into the room by a fan. The coil and assembly design is such that each watt is converted into 3.5 B.t.u. of heat."

Suggested List Prices

Model	Size	Suggested List Price
	CUSTOM	
66BH25	$\frac{1}{2}$ hp.	\$259.95
69BH25,33,53	$\frac{3}{4}$ hp.	299.95
611BH33,53	1 hp.	339.95
	DELUXE	
69DG25,33,53	$\frac{3}{4}$ hp.	299.95
611DG33,53	1 hp.	339.95
614DG37,57	$1\frac{1}{2}$ hp.	399.95
	SUPREME	
68BJ25	$\frac{3}{4}$ hp.	319.95
	Electronic Purifier	
69EH25	$\frac{3}{4}$ hp.	359.95
611EH33	1 hp.	369.95
	SUPERMATIC	
611JG33	1 hp.	299.95
	CUSTOMATIC	
611AH33,57	1 hp.	379.95
	CASEMENT	
66CH25	$\frac{1}{2}$ hp.	319.95
69CH25,33	$\frac{3}{4}$ hp.	359.95
	LO-BOY	
69FT25	$\frac{3}{4}$ hp.	399.95
611FT33	1 hp.	429.95



JUST A FLICK of the wrist turns the rotating "Weather Wheel" on this $\frac{3}{4}$ -hp. Fedders room air conditioner. The Weather Wheel is designed to direct the flow of cool air in any desired direction this avoiding drafts. The $\frac{3}{4}$ size is available with the conventional 12-amp. circuit, or with the $7\frac{1}{2}$ -amp. circuit which requires no additional wiring to install.

Welbilt To Expand Long Island Plant

NEW YORK CITY — Welbilt Corp. recently announced plans for a major expansion of its Maspeth, Long Island, plant.

The company said contracts have been let for a 50% expansion of the plant, with half the new space to be for air conditioner production.

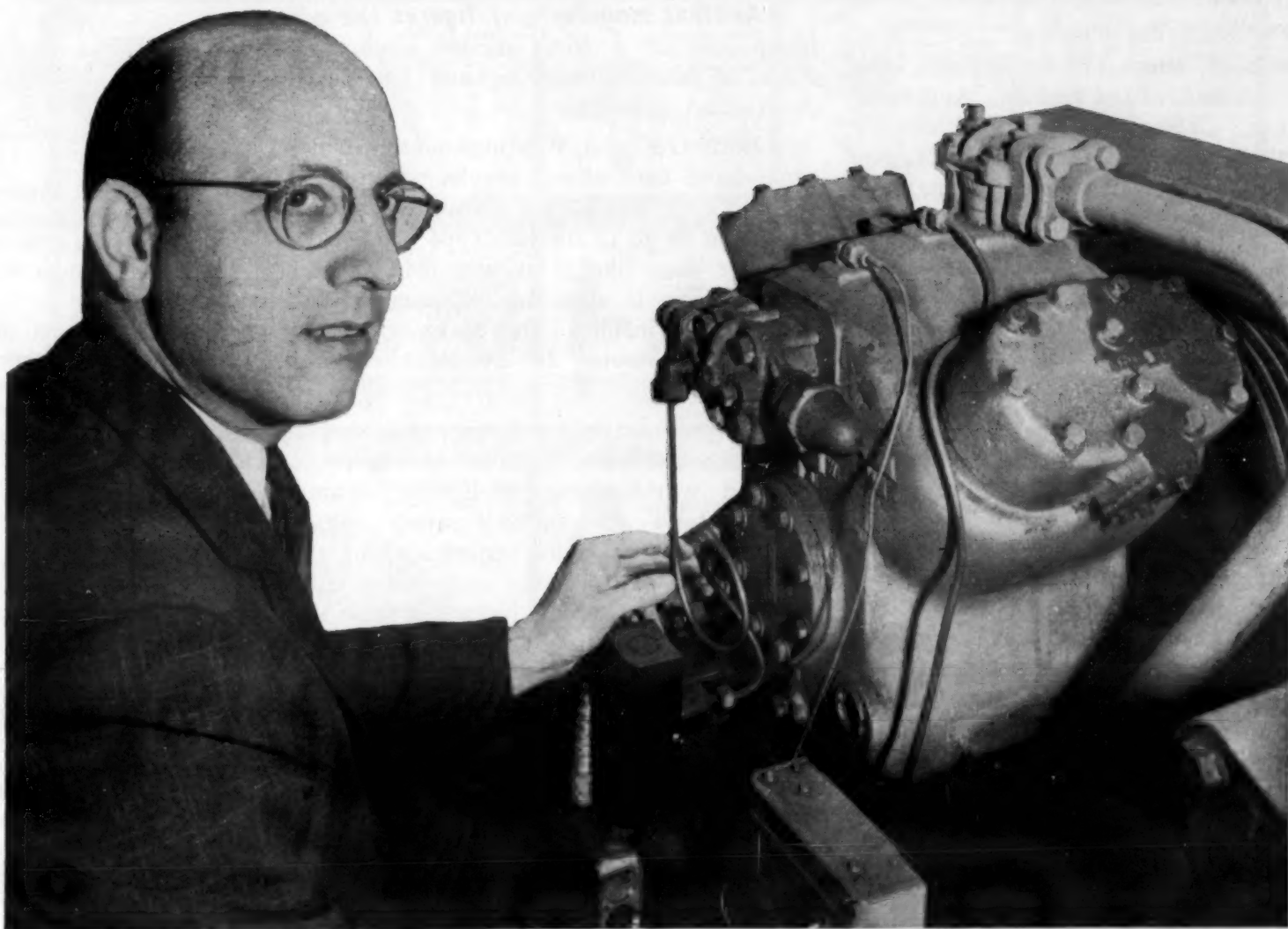
Various mergers and acquisitions involving expansion into commercial baking and frying equipment and a more complete line of some appliances are reportedly under consideration.

The air conditioning division plans regional meetings.

Sun-Times Gets Cooling

CHICAGO — A \$9,500,000, nine-story building now under construction here for the Chicago Sun-Times will be air conditioned.

"COMPLETELY DEPENDABLE"



"Freon" is trouble-free

We stake our reputation on it"

—says Mr. Robert Greenwald, Manager, Air Conditioning Div., The Lumm Corp., Toledo, Ohio

"In this business, the only way to keep a reputation for quality installations the way we have is to use the best materials. That includes 'Freon' refrigerants," says Mr. Greenwald. "I've been in the air conditioning business for 11 years and I don't know of a better refrigerant. Our air conditioning installations depend on 'Freon' refrigerants."

YOU CAN DEPEND ON "FREON"

You can get a dependable "Freon"

refrigerant for any air conditioning or refrigeration application. "Freon" is your best refrigerant buy, because it's dry, pure and safe. Has been ever since Du Pont started making it nearly 25 years ago. Ask your wholesaler for "Freon" refrigerants made by Du Pont—the name you can depend on.

For more information write to E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

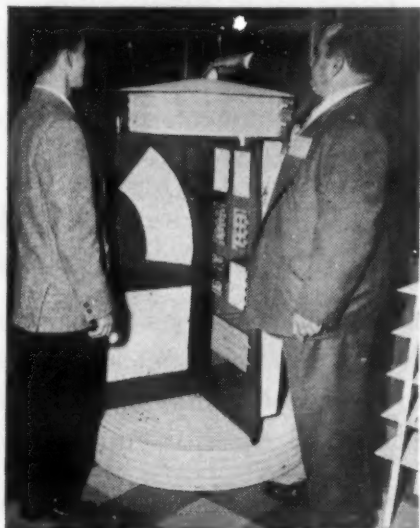


Features of the Exposition



KEY NO. E-12260

CENTER OF ATTENTION in the Kelvinator Corp. booth was this small ozone water cooler. C. W. Boltum, Refrigeration Research, Brighton, Mich., with a Kelvinator representative, watches T. W. Giller's demonstration.



KEY NO. E-12261

FORMED pipe sections mounted on a revolving display unit were spotlighted in Dean Products, Inc. booth. Charles W. Harris, Harris Refrigeration Co., Cambridge, Mass., looks on as Rubin Raskin, Dean vice president, indicates the products.



KEY NO. E-12262

PICTURED here is the 33-in. "Jr. Bevalor," made by Jewett Refrigerator Co., Inc. Carl Nosal of Nosal Heating & Air Conditioning Service, Lansing, Mich., listens as Allan D. Pearson points out the revolving shelf feature of the unit.

MOTOR BASE ADAPTERS Sell Many Other Items

Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No motor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.

SIZES FOR 1/8 to 3 H.P. Inclusive
Engineering Research Associates, Inc.
3475 East Nine-Mile Road
Hazel Park, Michigan

KEY NO. E-12263

(Below) DEMONSTRATING the "Fast Fill Faucet" in the Carbonic Dispenser, Inc. booth to W. E. Leffingwell, Cutler-Hammer, Inc., is R. J. Griffith, sales representative.



KEY NO. E-12264

(Right) Arthur W. Cox, Sr., Barnebey-Cheney Co., and Andrew Buchanan, watch Arthur W. Cox, Jr., hold aloft an activated charcoal filter.



KEY NO. E-12265

(Left) A CUTAWAY of a 5-hp. compressor manufactured by Tecumseh Products Co. was the focal point as George B. Boone and Austin S. Miller, Tecumseh representatives, discuss its features.



KEY NO. E-12266

REVOLVING display by Brookside Products, Inc. shows (bottom) slinger ring fans for air conditioning applications, (top) a line of blower fans of solid disc-drawn aluminum. It is shown by Dorothy Hamm, Miss Brookside.

"TICKETS" TO PROSPERITY

<p>MODEL 205C — adjustable superheat. F12, F22 or Methyl. Capacity: 2 and 3 tons F12.</p>	<p>MODEL 206C — fixed superheat. F12, F22 or Methyl. Capacity: 0 to 1 tons F12.</p>	<p>MODEL 207C — adjustable superheat. F12, F22 or Methyl. Capacity: 1/2 and 1 ton F12.</p>	<p>MODEL 208 — fixed superheat and pressure limit. F12, F22 or Methyl. Capacity: 1/2 and 1 ton F12.</p>	<p>MODEL 209 — adjustable pressure limit and superheat. F12, F22 or Methyl. In 1/2, 1, 1 1/2 tons F12.</p>
THERMOSTATIC EXPANSION VALVES				
<p>MODEL 217 — adjustable superheat. Solder connections. Capacity: 2 to 12.5 tons F12; 3 to 19 tons F22.</p>	<p>MODEL 218 — adjustable superheat. F12 (16-19-25 tons) F22 (25-30-40 tons.) Available with pressure limit.</p>	<p>MODEL 104D — open-type adjustment. Solder connections. F12, F22, Methyl, and Sulphur. Capacity: 1/2 ton F12.</p>	<p>MODEL 204C — with graduated pressure scale. F12, F22; Methyl or Sulphur. Capacity: 1/2 ton F12.</p>	<p>MODEL 304C — F12, F22; Methyl and Sulphur. Capacity: 1 ton F12.</p>
THERMOSTATIC EXPANSION VALVES				
<p>MODEL 408 — Trap-Dri. 3 sizes. Connections 1/4" to 3/8" SAE.</p>	<p>MODEL 410 — Trap-Dri. 5 sizes. Connections 1/4" to 3/8" SAE, 1/2" O.D. & 1 1/8" O.D. Solder.</p>	<p>MODEL 238 — evaporator pressure regulator. All non-corrosive refrigerants. Capacity: 1 ton F12.</p>	<p>MODEL 2355 — evaporator pressure regulator. F12, F22; Methyl & Sulphur. 2 adjustment ranges.</p>	<p>MODEL 237 — crankcase pressure regulator. Adjustable. 0-40 psi. 2 cap. ranges. 1 1/2 & 3 tons nom. F12.</p>
FILTERS AND DRIERS				
<p>MODEL 73 — multi-purpose. Three orifice sizes, four body styles. Strainer screen.</p>	<p>MODEL 67 — sweat or pipe body style. All-purpose. Soft, or metal-to-metal seat.</p>	<p>MODEL 270 — refrigerant. Suitable for hot-gas defrost. 3/8" or 1/2" orifice.</p>	<p>MODEL 70NAX — refrigerant. Pilot operated, 9/16" orifice.</p>	<p>MODEL 70N — refrigerant. Large capacity. Pilot operated, 1" orifice.</p>
SOLENOID VALVES				
<p>FLARE TYPE — 1/2" or 3/4" flare-nut. 1/2, 1, 1 1/2, 2, and 3 tons capacity, F12. Standard 2, 3, 4 — 1/4" O.D. outlets.</p>	<p>SOLDER TYPE — for Model 216C, & 217E & 218E TXV's and gen. service. 3/8" O.D. thru 1 1/4" O.D. Any number and size of outlets. Capacity thru 40 tons, F12.</p>			
DISTRIBUTORS				
<p>MODEL 65 — for all non-corrosive refrigerants. Sizes: 3/8 x 1/2 & 3/4" sliding seat (65 to 200 psi, 165 to 300 psi); 1, 1 1/4" double ceramic seat (70 to 170 psi, 160 to 240 psi).</p>				
WATER VALVES				



A-P CONTROLS CORPORATION

2460 N. 32nd St., MILWAUKEE 45, Wisconsin
COOKVILLE, Ontario NIJMEGEN, Holland
For Export: 13 E. 40th St., New York 16, N.Y., U.S.A.

Yours from the A-P line in '56

There's a parlor-car seat reserved for you on the A-P "prosperity special" — all you need is an A-P "ticket". This board just isn't big enough to hold all the popular money-makers in the complete line, but you can be sure each shown here represents the finest in refrigeration and air-conditioning controls available anywhere. And, whether you are a manufacturer or service engineer, you'll appreciate the fast, easy installation plus the prompt delivery from factory and jobber stocks.

Let A-P help you make '56 the best year you've ever had!

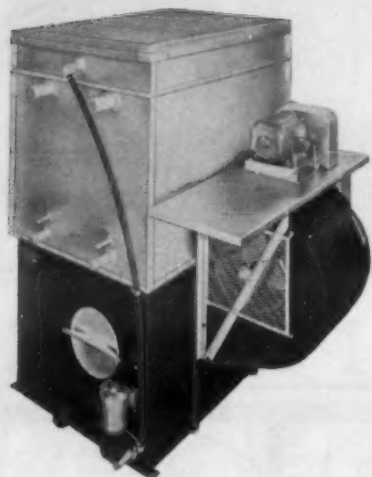


DEPENDABLE Controls

For Air • Liquids • Gases • Refrigerants



NEW



10 to 80 T.R.

EVAP. CONDENSERS

(Pat. Pending)

QUIET—No annoying water-dripping noises from these units! All noise is absorbed by the sound deadener.

SECTIONALIZED—Unit is composed of die-made sections, assuring a perfect fit and easy expansion.

EXPANDABLE—Units are designed to meet any future demands. If future requirements change, the unit can be expanded to meet today's requirements and (because of its sectional construction), at any time.

ALL STEEL CONSTRUCTION—The units are constructed entirely of steel, which is resistant to fire, leakage, warping and change in weight due to water.

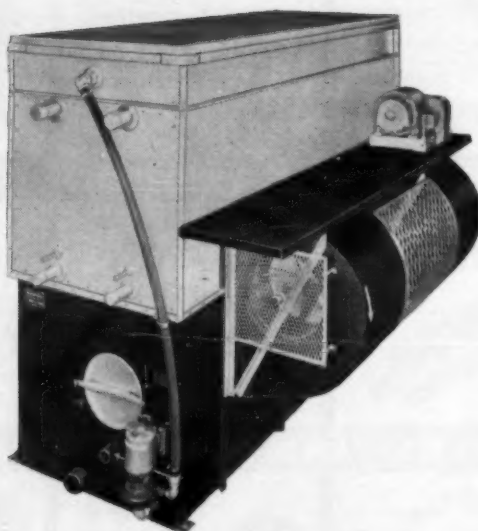
RUSTPROOF—Section casings and spray decks are of hot dip galvanized steel and are painted with Chromatized Aluminum Paint. Section panel interiors are coated with a special rust-inhibiting compound, protection against corrosion, acts as a sound deadener. Panels are sealed inside and out, with B. A. C. Special Mastic. Fans handle air directly from the spray deck.

RUGGED—All units are exceptionally rugged. They are built with double corner construction further reinforcing the unit.

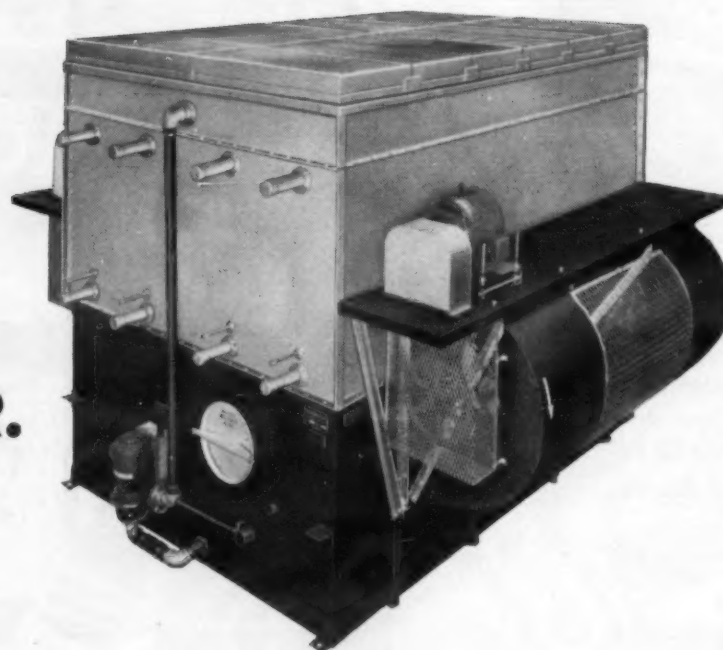
COMPACT—As a result of advance engineering, these units are compact with minimum floor space and height.

ACCESSIBLE—Units are so designed and built that all parts can be reached without moving any of the unit. The fan motor is extremely accessible, greatly simplifying maintenance. A working platform, easily reached by a ladder, gives access to fan motor and spray tray.

LOW COST—Standard production has reduced the cost of these units to a minimum. We are now able to offer this quality at a very low price.



90 to 150 T.R.



175 to 350 T.R.

BALTIMORE AIRCO

2615 MATHEWS STREET • BALTIMORE, MD.

M"LINE

COOLING TOWERS

(Pat. Pending)

All noises are literally "locked" inside. See our catalog decibel ratings.

Assuring absolute matching . . . extremely easy assembly and disassembly.

Units. If future increase in load is anticipated, a unit can be purchased to meet (on), at any future date, capacity can be increased to meet new demands.

Constructed entirely of heavy gauge steel . . . offering the best possible protection to water absorption.

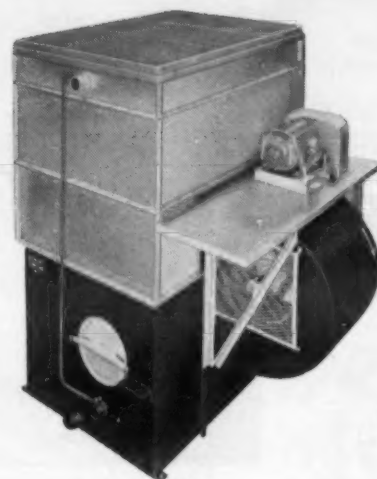
Units are of hot dip galvanized sheets, further protected by B. A. C. Zinc-coaters are coated with B. A. C. Special Mastic which, in addition to cadener. Pans are of heavy gauge steel, welded and coated, Fans handle dry air only.

Reinforced. They are built of extremely heavy gauge material reinforcing the structure.

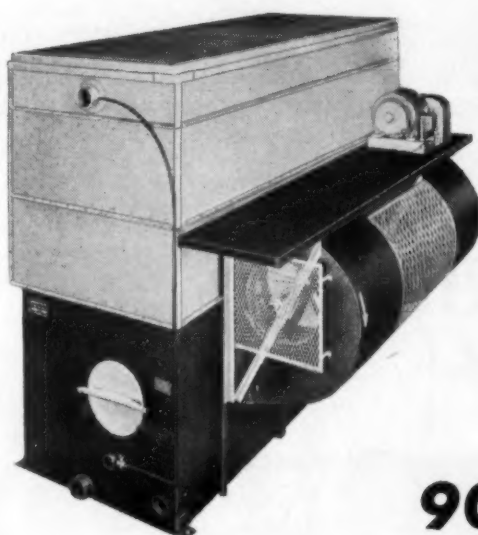
Once engineering design, these units are unusually and height requirements.

Designed and constructed that any specific part (ing any other parts. All moving parts are atly simplifying maintenance. A large y reached by built-in steps, provides d spray trees.

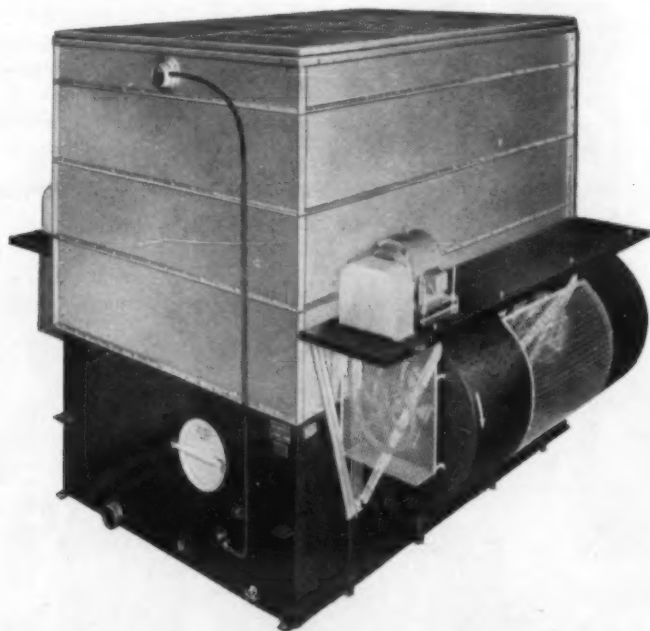
Standardization and mass reduced the manufacturing cost s to a minimum, enabling r this quality equip- a very nominal cost.



10 to 80 T.R.



90 to 150 T.R.



175 to 350 T.R.

OIL COMPANY, INC.

• BALTIMORE 18, MARYLAND

For more information about products advertised on this page use Information Center, page 24.



KEY NO. E-12267

(Left) DEMONSTRATING the C. Q. Sherman Associates, Inc. "Roll About Spot Merchandiser" to Fred Morrison of Morrison Carbonic, Detroit, is Bernard A. Sherman. Model SM-1 high temp dairy display case has a capacity of 7 cu. ft.



KEY NO. E-12269

HOME AIR FILTER, "Electro Klean," could be seen in the American Air Filter Co. booth. Dale A. Barnstable, of the firm, is explaining its uses to Carl V. Sewall, contractor from Griswolds-ville, Mass.



KEY NO. E-12271

POINTING OUT new model JF "Jet-Flo" 105 air conditioning unit is Miss Bobbie Cross in the Bush Mfg. Co.—Heat-X, Inc. booth. The cooler is housed in a stainless steel casing.

KEY NO. E-12268

(Right) A GASKET for refrigerator and freezer doors which shapes itself to the unit ("Curvall 1400") was demonstrated by Stanley L. Jarrow, president of Jar-row Products, Inc. to Mrs. Myles Jarrow, wife of the firm's secretary.



KEY NO. E-12270

CONCENTRATING on the new unit in Mueller Climatrol Div., Worthington Corp. booth, as John Reock, advertising manager, and H. P. Mueller, Jr., vice president, tell about it, are Gerald W. Keller, Keller-Northrup, Dallas, Texas distributor, and Mrs. Keller.



KEY NO. E-12272

CENTERED in The Tenney Engineering, Inc. booth was this angle air unit cooler with template mounting, which has slide-on 1-minute installation, as discussed by Robert Brown, vice president, and Sid Shapiro, sales manager of Tenney.

Redmond

MICROMOTORS

One of largest stocks in the world!

FACTORY DISTRIBUTORS

MARVIN L. "FERGIE" FERGESTAD

CYCLO-FREEZE CORP.

6318 Cambridge, Mpls. 16, Minn.

West 9-6794

KRACK ROOM KONDITIONER

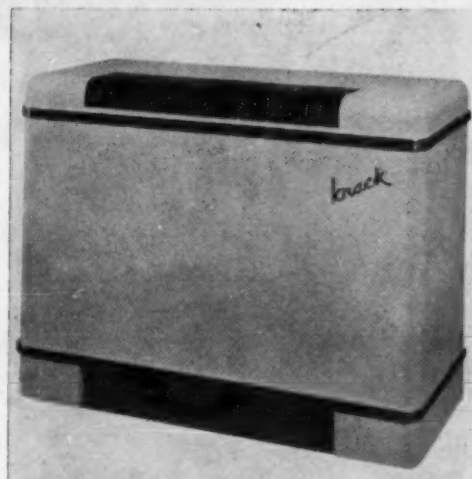
Remote type, console models, for individual room control

BREEZE-E-FEX

5 sizes, 1/2 to 2 tons

This attractive, efficiency-designed console room conditioner is available for use with Freon or chilled water . . . heating coils optional. For use where cost of duct work is prohibitive or individual zone control is wanted . . . especially good for multiple installations. Suntan durable baked enamel finish. Permanent washable filters.

WRITE TODAY for free bulletin giving full details.



Pioneers in Refrigeration and Appliances Since 1931.



901 WEST LAKE ST., CHICAGO 7, ILL.

KEY NO. E-12273

(Below) DISPLAYED in White-Rodgers Electric Co. booth mounted on a panel was this "Ice Bank Control" unit which Ed Robinson, advertising manager, points out to Paul Willinger, Reed Refrigeration, Baltimore contractor.



KEY NO. E-12274

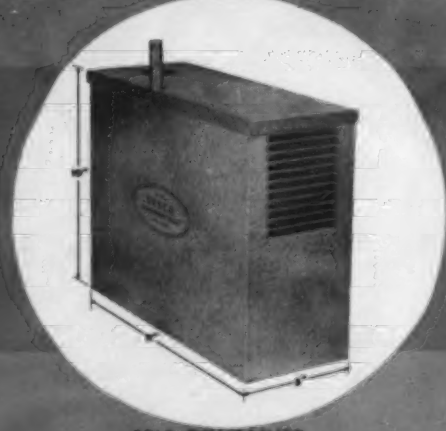
NEWEST model, 15-cu. ft. automatic defrost freezer, is displayed by Coldin Cabinet Co., Inc. From left to right those viewing the unit are Bernard Schneider, northeastern district sales manager, Alex G. Lemmer, general manager, and Leon Zuck, engineer, all of Coldin, Charles and Joseph Wagenheim, visitors, Leon P. Krause, Coldin vice president and sales manager, and Richard E. Rudolph of Quality Refrigeration, Philadelphia.



KEY NO. E-12275

HIGHLIGHTING the Gem Refrigerator Co. exhibit was this "Rotomaster" for beverage carton or can display. Jacob Gruhler, president, and his son Eugene Gruhler, vice president of the company, point out revolving shelves.

MAKES FLOOR DRAINS UNNECESSARY



SELF CONTAINED COMPLETELY AUTOMATIC

KESCO CONDENSATE DISPOSAL PUMPS

WILL DRAIN 4 INCHES FROM FLOOR

ASK FOR KESCO PUMPS AT YOUR NEAREST WHOLESALER FOR MORE INFORMATION WRITE KESCO PRODUCTS CORP. JAMAICA 13, N.Y.

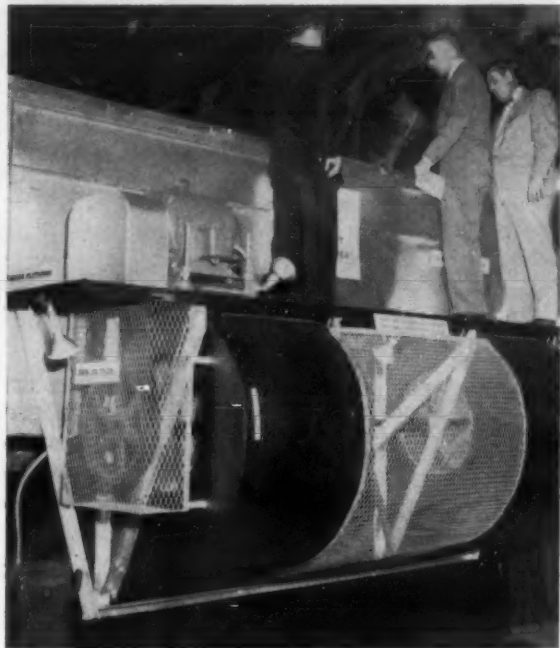
AVAILABLE IN

110 V. OR 220 V. A.C.

10 FT., 15 FT. OR 20 FT. HEAD

SAMPLE SHIPPED PREPAID UPON REQUEST OF JOBBER

Interesting Points at the Exposition



KEY NO. E-12276

(Left) STANDING ON the working platform of a Baltimore Aircoil Co. model 150MT cooling tower are Carmine F. Cristiani, engineer, and H. C. Bieg, project engineer, both of Schering Corp., Union, N. J., looking over the unit as Ray R. Forseille, BAC vice president-sales, explains its function.



KEY NO. E-12280

CONTROL PANEL for a 20-ton packaged liquid cooler in Bell & Gossett Co. booth was discussed by C. Forne, R. D. Bitzer Co., Inc., Philadelphia distributor, Frank Gall, sales promotion manager, and J. H. Hanley, eastern sales manager, both of B&G.

KEY NO. E-12281

(Left) EXPLAINING uses of "All Door Display Case" is Donald K. Schick, production manager of American Glass Refrigerator Door Co., Inc. to Oliver Bartine and Robert J. Christy of Breault Associates, Inc., Bridgeport, Conn. dealer.



KEY NO. E-12282

POSING above is Miss Bobbie Cross with the new 5-hp. packaged heat pump in the Bush Mfg. Co.—Heat-X, Inc. booth.



KEY NO. E-12277

INTERESTED in Paragon Electric Co. control panel is Jay Levins of Jack Jeffries, Inc., wholesaler of Newark, N. J. as Tom Morrison, manager of refrigeration division, tells him about it.



KEY NO. E-12278

A 3-HP. air-cooled condensing unit was shown in the Westinghouse Electric Corp., Air Conditioning Div., booth by Rodney D. Burgess of New York City.



KEY NO. E-12279

POWER-CENTERED blower wheel, which features interchangeability, is indicated by George Woolley, Jr., sales representative of Brundage Co., for C. Adrance Montague, sales manager of air conditioning division of York-Shipley, Inc.

Here is *why* the SPORLAN *Catch-All* is the **PERFECT FILTER-DRIER!**



the famous Catch-All Molded Porous Core *catches-all* the moisture, corrosive acids, sludge and foreign matter that can possibly harm a refrigeration or air conditioning system.

Being molded of minute particles of a highly efficient desiccant, then double activated and moisture proof sealed after assembly, the Catch-All core dries the refrigerant down to an end point so low that any remaining moisture is absolutely harmless. Harmful corrosive acids are also adsorbed and retained. It cannot powder or pack, and the refrigerant cannot by-pass or

channel around it. Even foreign matter as minute as nine microns is filtered out with negligible pressure drop.

That's why engineers everywhere say...if you want perfectly clean, perfectly dry, acid free refrigeration and air conditioning systems, buy Sporlan Catch-Alls, the perfect Filter-Drier!



Ask your wholesaler for the Sporlan Bulletin 40-10 today! You'll find Catch-Alls available in progressive sizes from 3 to 192 cubic inches in flare or sweat connections.

SPORLAN VALVE COMPANY

7525 SUSSEX AVENUE ST. LOUIS 17, MISSOURI

EXPORT DEPARTMENT: 89 BROAD STREET

NEW YORK 4, NEW YORK

Cooling Market Broadened as Tests Show Over 5-Hp. Motors Use One-Phase Power

ST. LOUIS—Motors considerably larger than 5 hp. can be successfully operated on single-phase circuits, judging by tests in rural applications.

This might broaden the market for larger air conditioning units for apartment houses, offices, and larger buildings located in residential areas where only single-phase current is available, indicates F. A. List of Westinghouse Electric Corp.

Only One-Phase Power Likely To Be Available For Some Time To Come

"It appears that there will be only single-phase power available to most of these areas for some time to come," List told the AIEE conference on appli-

cation of motors to space heating and cooling equipment held here recently.

"Most of the larger air conditioning systems, larger than 5 hp., that are now in service are located in offices, theaters, factories, and in other large buildings in areas serviced by three-phase power," List said.

Starting Limitations Make Reduced Voltage Necessary

"Even on these three-phase systems the starting kva. limitations are such as to make reduced voltage or part-winding starting of the larger motors necessary. Limiting the starting kva. on the larger motors on the single-phase line will be just as necessary, if not more

so," he explained.

"On rural single-phase lines the use of larger single-phase motors up to 20 hp. is often permitted. The conditions on rural single-phase lines are somewhat different from the conditions on residential single-phase lines, but the desire and necessity of keeping the starting kva. requirement to a minimum is similar."

List pointed out that although his discussion was "primarily on single-phase motors on rural lines, the experiences gained... may be helpful in arriving at larger single-phase motors for use on larger air conditioning units located in residential areas serviced only by single-phase power."

Ability To Carry Load Is Important

Ability to carry the running load of a large motor is an important consideration, but "quite often the starting input requirements and not the running input requirements limit the size of a motor on a given power system," List declared.

"Most power suppliers have found that they can permit larger integral horsepower single-phase motors on their lines [than recommended by IEEE and NEMA] due to the high capacity of their service transformers and systems," said List.

"The voltage dip during starting of these larger motors is not sufficient to cause objectionable light flicker. This is especially true with motors that are started infrequently."

Rural Users Willing To Accept Voltage Dip

He commented also that "in some areas, especially on rural lines, where a service transformer supplies power to only one user, the user is often willing to accept an appreciable voltage dip (light flicker) during the starting of a larger motor. As a result, motors of up to 10 hp. and larger are approved by many power suppliers in rural areas."

Development of a special capacitor start-capacitor run motor which has the starting characteristics of a 10-hp. motor but delivers 20 hp. at running speed was described by List.

A conventional capacitor

start-capacitor run motor, he explained, has a main and an auxiliary winding in the stator. The main and auxiliary windings are displaced in space from one another by approximately 90 electrical degrees.

"The main winding is arranged for direct connection to a source of single phase power. The auxiliary winding in series with a capacitor is also connected directly across the power source. The current in the main winding will lag the applied voltage. The current in the auxiliary winding will lead the applied voltage."

"This arrangement gives a revolving magnetic field in the air gap of the motor that approaches the magnetic field in the air gap of a two-phase motor. With such a revolving magnetic field, the motor produces torque at zero speed."

Amount of Torque Depends On Many Factors

"The amount of torque produced depends on many factors including the size of the capacitor used. If the size of the capacitor is selected to give maximum starting torque per ampere starting current, the motor will not give good performance at running speeds."

"As the motor accelerates, the impedance of the motor changes (increases) but the reactance of the capacitor remains essentially constant. This causes great unbalance at running speeds resulting in noise and heating."

"When the motor has accelerated to a predetermined speed, therefore, a switching mechanism (rotating switch or a relay) operates to change the size of capacitor so that good running performance is obtained," List explained.

"With this conventional type connection the starting current is almost fixed by the breakdown torque of the motor. For a 20-hp. motor with a breakdown torque of 200% of full load torque, the starting current will be about 400 amperes on a motor rated for 220 volts."

"This connection therefore is not satisfactory for getting a 20-hp. motor with a breakdown torque of 200% of full load torque and at the same time having a starting current of a 10-hp. motor—200 amperes," he said.

Special Motor Has Main, Auxiliary Winding

The special capacitor start-capacitor run motor has a main and an auxiliary winding and capacitor similar to the conventional capacitor start-capacitor run motor but the connections are different.

At starting the main winding is connected in series with the auxiliary winding across the power supply. The electrolytic capacitors are connected in parallel with the auxiliary winding.

When the motor has accelerated to a predetermined speed a switching mechanism (rotating switch or relay) operates to open and close contacts. With this running connection the main winding is connected directly across the power supply and the auxiliary winding in series with the oil capacitor is also connected across the power supply. This running connection is the same as for the conventional capacitor start-capacitor run motor.

Special Connections Make High Breakdown Torque

"These special connections make possible high breakdown torque for the amount of starting current drawn on the starting connection," List explained.

"The motor installation consists of the motor and a control box. The control box includes the capacitors, the line starter including overload protection, a circuit breaker, and other control equipment. The power supply (220-volt, 60-cycle single phase) is brought into the control box and connected. The controls are connected to the motor through three electrical conductors."

"One of these motors is now driving an irrigation pump on a vegetable farm in Pennsylvania. The power supplied and the farmer are very satisfied with the performance of the motor. Field tests indicate that the line disturbance during start is not objectionable."

"Other motors of this design are being installed to drive other equipment in areas serviced only by single phase power. For one installation, a 75-hp. motor of this design is being considered," List revealed.

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KEY NO. E-12237

THREE gauges and three controls were spotlighted on a board presenting James P. Marsh Corp. new valve line as Miss Emily Swan points out the 1/2-in. valve unit. She is Miss Atlantic City for 1955-56.



KEY NO. E-12238

COMBINATION electric receiver filter drier, a one-unit indicator for automotive air conditioners was demonstrated in Remco, Inc. booth by Robert L. Hartman, chief of product supply, to Nelson D. Wagener of Florida Filters, Miami, Fla.



KEY NO. E-12239

"INTERMATIC" time switch T670, a refrigerator defrost timer which can be set from 5 to 50 minutes is shown by W. F. Keally, regional sales manager of International Register Co. to Edward C. Kurtz, Ahrens & McCarron, Inc., St. Louis.



KEY NO. E-12240

DEMONSTRATING the electric defrost low temp unit cooler feature in the "Krack" line of Refrigeration Appliances, Inc. is (right) Donald Croeger as F. E. Sleeth, Sleeth Refrigeration, Kingston, Ont., Can. shows interest.



KEY NO. E-12241

DEMONSTRATING "Floating Air Package" units made in models of 3 to 7 1/2 tons in the Friedrich Refrigerators, Inc. booth was R. W. Jones, Jr., San Antonio, assistant sales manager.



KEY NO. E-12242

TYPICAL INSTALLATION of its "Kooler-aire" air-cooled equipment (offered in 2, 3, 5, and 7 1/2-hp. sizes with matching accessories) was an attraction in the booth of United States Air Conditioning Corp. Inspecting display are John Prihoda and Marvin Chavoya, Tony's Refrigeration, Kalamazoo, Mich.; J. Daniel Rupert, Kalamazoo; and L. P. Hanson, UsAirco.



KEY NO. E-12245

COMPACTNESS of Bryant's model 560 remote air-cooled condensing unit available in 2, 3, and 5-hp. sizes was emphasized by the company. Discussing 5-hp. unit displayed are Charles Eskew, Bryant service and application engineer, and Frank Pukl and H. J. Cooper, Henry J. Cooper Co., Uniontown, Pa. At rear is cooling coil package.



KEY NO. E-12244

FROM 2 to 2,000 TONS capacity in cooling towers are represented in these various replicas of cooling tower models which Binks Mfg. Co. produces in both wood-clad and metal-clad types.



For Winter and Summer Air Conditioning

SELL DETROIT'S COMPLETE CONTROL SYSTEM!



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For more information about products advertised on this page use Information Center, page 24.



KEY NO. E-12214

"ULTRA SOLVEX" is now being packaged in a 10-lb. container," Olivia P. Burkey, assistant manager, Chemical Solvent Co., tells Erwin H. Simon, Washington Refrigeration Co., Washington, D. C. New package provides instructions for use in cleaning air conditioning and refrigeration systems, industrial and institutional hot water systems, boilers, automobile and truck radiators, etc.



KEY NO. E-12215

SHOWN IN THE Airserco Mfg. Co. booth was this portable service station for evacuation, dehydration, and charging air conditioning and automotive air conditioning units. It permits dehydration and charging of two different units at the same time. E. C. Williams, Airserco president, explains the product to (center) Edward Wojnos of Eddie's Refrigeration Service, Utica, N. Y., and John Zubler, Airserco sales engineer.



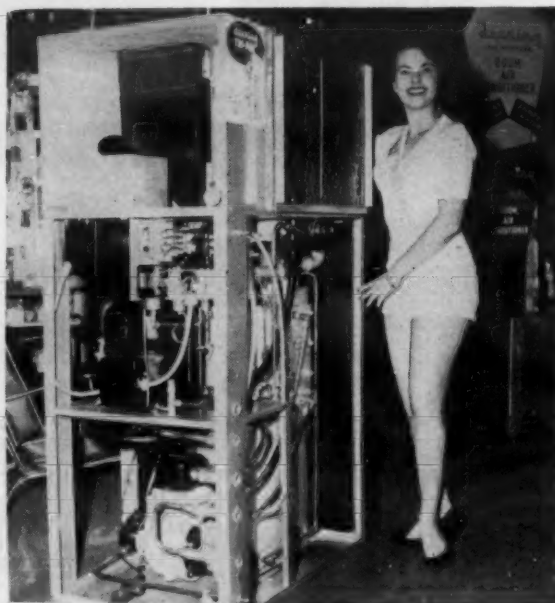
KEY NO. E-12218

THIS TYPE OF packaged air conditioning unit, offered by the Typhoon Air Conditioning Co., Inc., is available in sizes from 2 through 10 tons. Barbara Paxson stands alongside the 10-ton unit shown here to demonstrate its compactness.



KEY NO. E-12216

CENTER SPOT in booth of The C. A. Olsen Mfg. Co. and its subsidiary, The Henry Furnace Co., was occupied by this new 2-ton-capacity "Luxaire" counterflow year-round air conditioner with transparent front panels enabling spectators to see internal structure of the unit.



KEY NO. E-12217

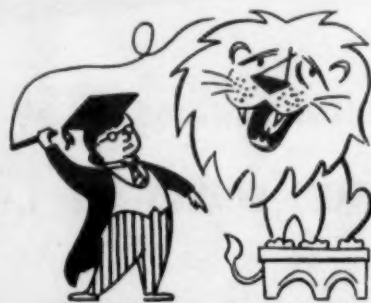
NEW PACKAGED residential air conditioner, consisting of a 3-ton cooling system, a 110,000 B.t.u. hot water boiler, and a hot water coil for use in a forced-air heating system, with single thermostat control, was introduced by The Deering Air Conditioning Co.



KEY NO. E-12219

INTENDED PRIMARILY for the ground cooling of military and commercial aircraft, this gasoline-engine-drive, trailer-mounted air conditioner was recently put into production by Keco Industries, Inc. for the Air Force. Keco is developing commercial uses for the unit, which produces 11 tons of cooling, at design conditions. Standing by control panel are Elmer Sketch, test technician, and Roger K. Braun, vice president.

TAME TOUGH Refrigeration PROBLEMS with "JOB TAILORED"



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DEAN COLD PLATES

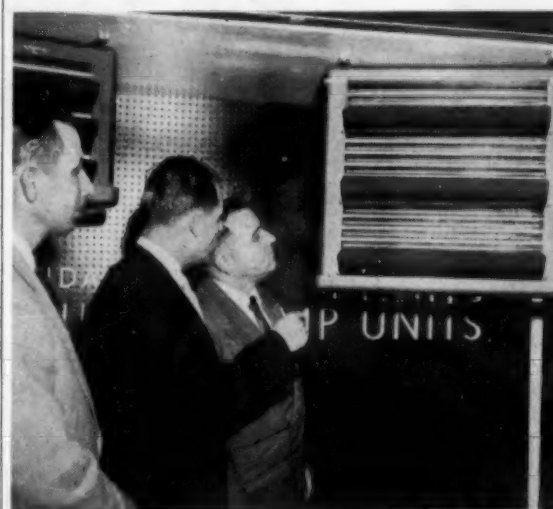
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KEY NO. E-12220

OBJECT OF ATTENTION is Larkin Coils' model 212 unit cooler for medium temperature applications. J. E. Palmer (center), Larkin sales manager, tells J. L. Lane and Johnny Gallup of Colonial Stores, Norfolk, Va., all about unit.

KEY NO. E-12221

ONE OF THE ITEMS featured by Penn Controls was this Type 273SP12 air conditioning control center, a new combination high and low-pressure cutout and motor contactor. Examining device are James M. Garrett, district manager, Boston, and James G. Moravec, district manager, Moline, Ill.





KEY NO. E-12222

NEW FLAT-TOP beverage cooler, capacity 26 cases, with blower-type cooling coil, is brand new model in line of beverage coolers made by True Mfg. Co.



KEY NO. E-12223

GROUPED around Sub-Zero Freezer Co., Inc.'s new self-contained factory production unit which can be placed in a hole-in-wall and plugged in, having an 8-cu. ft. refrigerator at top and a 7.5-cu. ft. freezer below, are A. H. Rose, general sales manager; A. G. Young, president of Mid-Atlantic Stainless Steel Co.; and W. F. Bakke, Sub-Zero president.



KEY NO. E-12224

HOLDING UP a 10-lb. can of "Big 3" scale remover developed by Calgon, Inc. is Robert C. Wagner, showing the product to (center) John B. Kelly and (right) Samuel Preissman, Temple university engineering students.



KEY NO. E-12225

SMALL, COMPLETE refrigerator, with door shelves and center evaporator, was exhibited by LEC Refrigeration, Bognor Regis, Sussex, England.

(Use the Information Center form on page 24 to obtain additional information about products pictured on this page.)



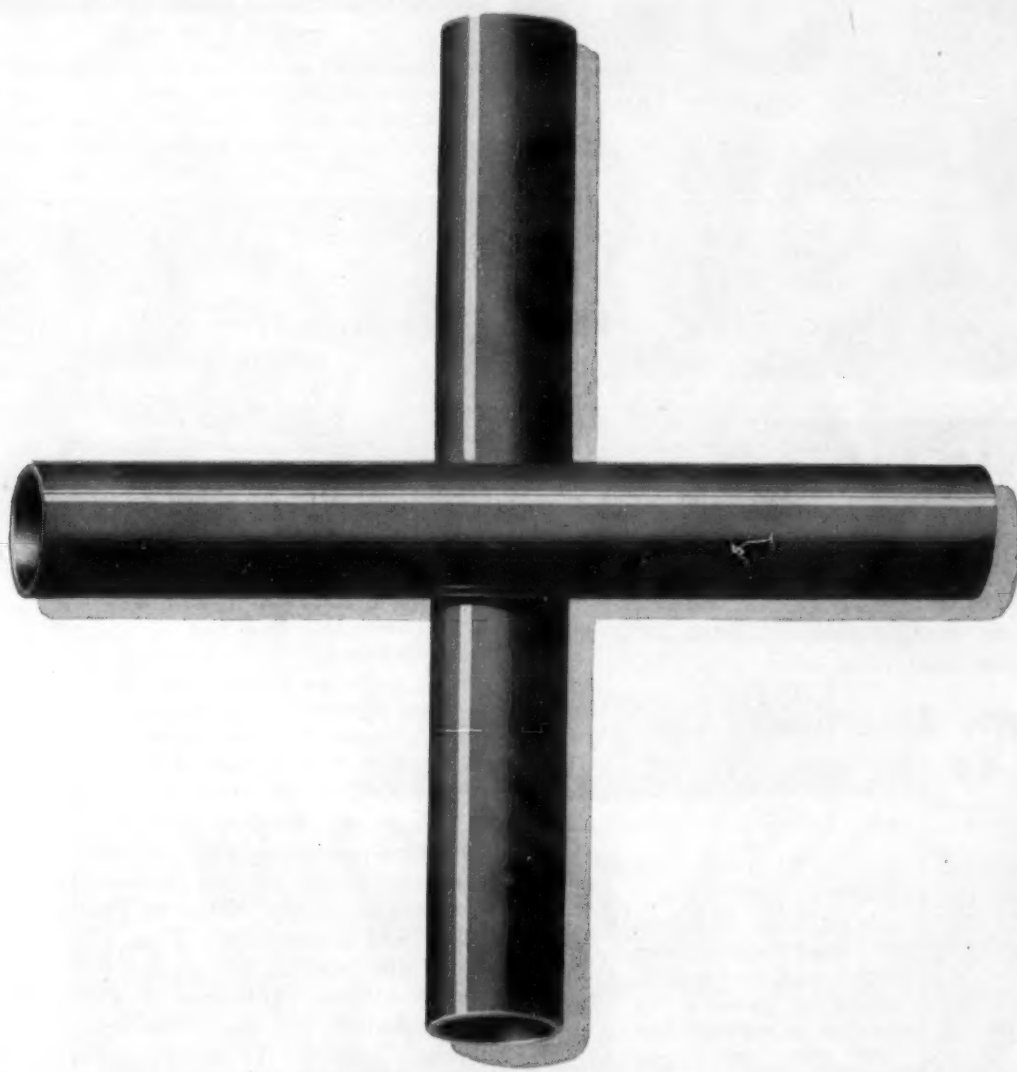
KEY NO. E-12226
"STYLE-GARD" INTERIOR PANEL for off-season use on its 1956 room air conditioners was introduced by Fresh'nd-Aire Co., a division of Cory Corp. The decorator-designed cover comes with the "Constellation" series and as an accessory in the deluxe series. Harry Roehm, sales manager, consumer products, Cory, said panel can be covered by the user with her own choice of fabric.



KEY NO. E-12228
THREE-SHELF 11-ft. dairy display case, model DAS, was shown by McCray Refrigerator Co., Inc. It features adjustable shelves, and all shelf area is refrigerated. Model also comes in an 8-ft. case.



KEY NO. E-12229
"BLUE STREAK" dryer for refrigerating systems was featured by Wabash Corp., which also makes strainers, solder and solder flux, couplers, oil separators, high side floats, and other accessories for the industry.



The Big Plus in Tubing
Remember
GM STEEL TUBING
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GM STEEL TUBING BY ROCHESTER PRODUCTS, DIVISION OF GENERAL MOTORS, ROCHESTER, N.Y.

For more information about products advertised on this page use Information Center, page 24.



KEY NO. E-12246

NEW PRESSURE RELIEF valve with high volume discharge was demonstrated in Mueller Brass Co. exhibit, which also housed new and improved models of refrigerant driers, strainers, shut-off valves, liquid indicators, tubing, and tools and accessories.



KEY NO. E-12248

OPERATION IN any position is one of the claims made for the new lightweight "Harvill Hermetic" compressor introduced at the show, as Robert Northey (right) of Harv-O-Metic Sales Co. demonstrates to J. Cal Courtney, Texas Power & Light Co. Models were shown in 1/8, 1/4, and 1/2-hp. sizes. Larger sizes are planned later.



KEY NO. E-12251

NEW TYPE DUCTING for air conditioning systems is "Thermafex" produced by Flexible Tubing Corp. It is constructed basically of a continuous galvanized spring steel helix covered with a bonded 3-ply laminate of Fiberglas fabric between two layers of aluminum sheeting.



KEY NO. E-12247

DISCUSSING features of this Foster Refrigeration Corp. 16-cu. ft. bottle beverage cooler with remote condensing unit are H. R. Shillin, sales promotion manager (left), and Chester B. Scott, regional sales manager.



KEY NO. E-12249

NEW lightweight tubular base on a 1/4-hp. condensing unit was highlighted in the Lehigh, Inc. booth. C. A. Mangle, motor sales engineer for Emerson Electric Mfg. Co. looks on as Joseph Goldsten, chief engineer for Lehigh, explains the workings.



KEY NO. E-12252

ALL NEW "Thermobank" automatic defrost system in scale model made by Kramer Trenton Co. was shown to Walter V. Kloss, Sr., Kloss Refrigeration & Air Conditioning Co., Rahway, N. J., and his son, Robert, Jr., by Arthur Paulsen, sales representative of Kramer-Trenton.



KEY NO. E-12250

NEW FOR 1956 is this "Lo-Boy" automatic defrost frozen food and ice cream case shown by Ace Cabinet Corp. Grouped around model are Edward Stern, executive vice president; N. S. Bloomenstein, plant manager; Ray Vien, service manager; and A. M. Rohr, regional manager.

It is a physical impossibility to process and publish in one issue all the picture coverage by the News at the 9th ARI Exposition. Thus, if you are looking for a picture of a certain exhibit or product, and do not find it in this issue, look for it in succeeding issues of the News.

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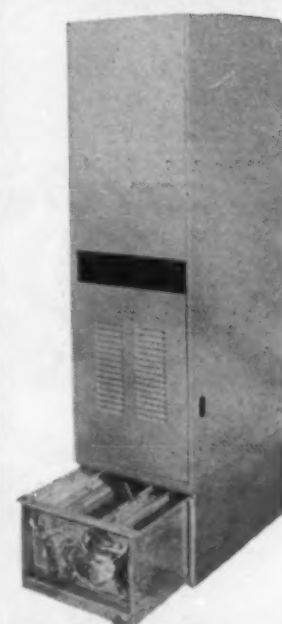
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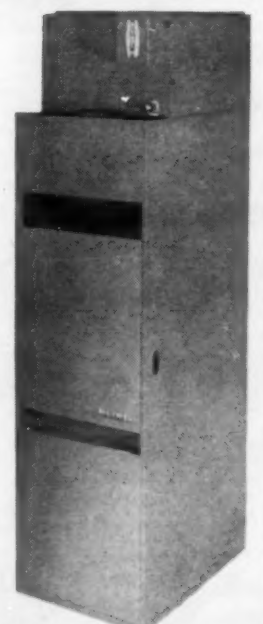
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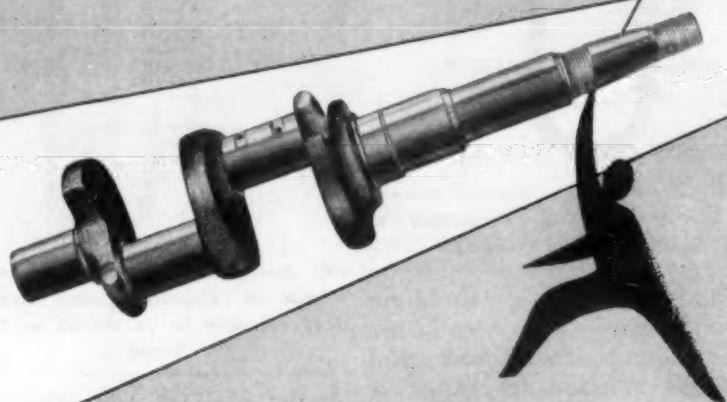
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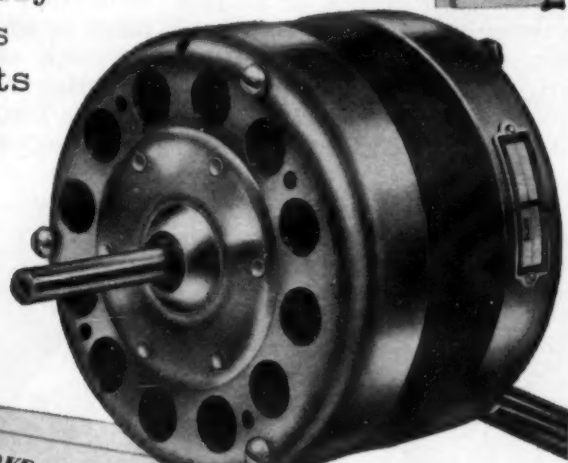
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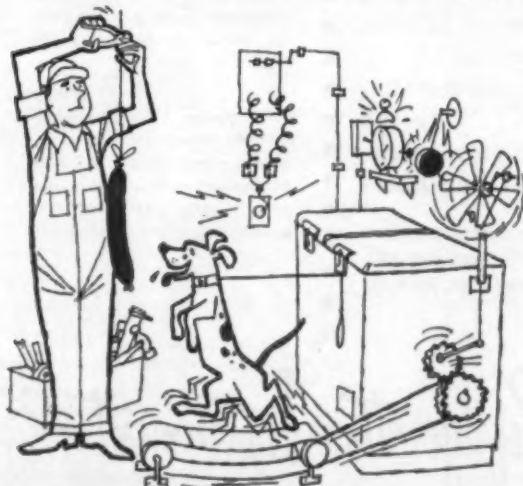
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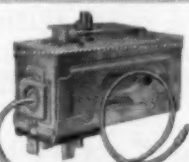
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KEY NO.
E-12290

SEEN in the Tyler Refrigerator Co. booth are (l.) a freezer, and (r.) its companion FS355 reach-in refrigerator. Art Curran, Tyler supervisor of agency sales, explains new features to Sam Sgro, representative of Automatic Equipment Co., Wilmington, Del. distributor.



KEY NO.
E-12291

A 2-TON residential unit evaporative coil for duct installation was shown in the McQuay, Inc. booth. W. B. Buck, regional manager, indicates features to John Bennett, Miami, Fla., manufacturer's representative for H. L. McMurray Co. in the Caribbean area.



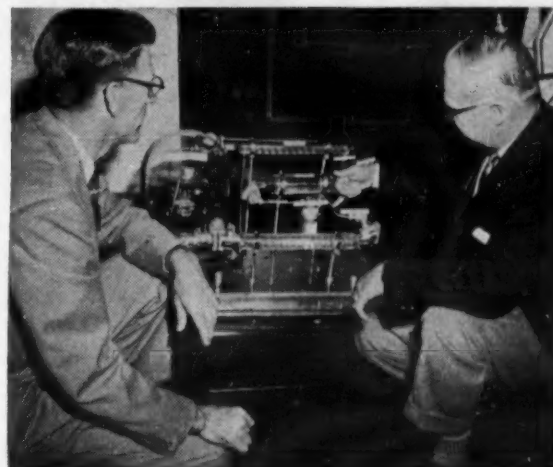
KEY NO. E-12289

AS Robert L. Hogue, midwest manager of national purchasing for Carrier Corp. opens the company's newest 5-hp. packaged air conditioning unit, A. C. Berenato, Brunos Oil Co., Hammonton, N. J., sees how service calls can be cut by easy hand removal of the panel.



KEY NO. E-12292

SHOWN in the Kenmore Machine Products, Inc. booth, in its wholesaler's corner, was this silica-gel drier and strainer capillary assemblies. Interested in the units are C. O. Prinkey, an engineer for Oiljak Mfg. Co., Inc., Montclair, N. J., Bill Moran, Kenmore sales representative, and James F. Russell, also of Oiljak.



KEY NO. E-12293

INDICATING the "Dry-Eye" control in Ansul Chemical Co. booth is Lou Wallace, manager of new refrigeration products. J. A. Cassidy, F. H. Langsenkamp Co., Indianapolis wholesaler, watches the demonstration.

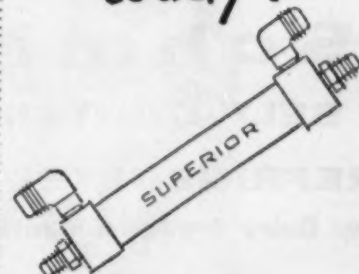


KEY NO. E-12294

LOOKING OVER A-P Controls Corp.'s model 237 crankcase pressure regulator is Robert H. Spurrier, R&R Supply Co., Inc., Orlando, Fla., while Harry Youmans of A-P explains how the hot gas defrost prevents overload condition. The unit is primarily designed for use in refrigerated trucks.



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installation
today?



gear it for
maximum
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Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers



Manometers (2)

MERCURY BAROMETER

Instead of leaving the top of tube B open to the atmosphere, let us seal it and draw a "perfect" vacuum on the space above the mercury, as in Fig. 3. Then atmospheric pressure on the mercury in tube A will encounter no opposing pressure on the top of the mercury in tube B.

Since normal atmospheric pressure at sea level is equal to 14.696 p.s.i., then the mercury column will be 29.921 in. high (14.696 x 2.036). A rise or fall of atmospheric pressure will be

measured by a corresponding rise or fall in the height of the mercury column of this instrument which is known as a mercury barometer.

WATER INSTEAD OF MERCURY

The density of the liquid used, determines how high the column of liquid must be to counterbalance a given pressure. Mercury is very dense (very heavy), so it is used in manometers to indicate pressures of several pounds per square inch and still use tubes of no more than 3 or 4 ft. in length.

Water weighs 62.4 lbs. per cu. ft., so mercury is 13.59 times

the density of water. Thus, if the barometer in Fig. 4 were to use water instead of mercury, it would have to be 13.59 times as long, because to indicate atmospheric pressure of 14.696 p.s.i.g., the water column would have to be 33.8 ft. high (29.921 x 13.59 ÷ 12).

A change of 1 in. on the mercury barometer would mean a change of over a foot on a water tube barometer. Putting it another way, a manometer using water, alcohol, oil, or other relatively light liquid would be more sensitive to small pressure changes than a mercury manometer.

LOW DENSITY LIQUID MORE ACCURATE

This is taken advantage of to more accurately measure small

pressure differences, such as static pressure differences of air in air ducts, across filters, and pressures exerted by fans. If we use water instead of mercury in the U tubes shown in Figs. 1 and 2, then an inch difference in level between the water in the two tubes equals only .0361 lb. or .58 oz. These low air pressures are usually simply referred to in inches of water instead of converting them to pounds per square inch.

A manometer having two vertical tubes, using water, and calibrated in inches and tenths of an inch, could be read very accurately to tenths of an inch of water pressure, and estimated even more accurately. By using a light oil (lighter than water, such a manometer could be read rather accurately to the nearest

FIG. 3: U tube mercury manometer used instead of compound gauge. Zero point does not have to be moved as in Figs. 1 and 2.

one half of a tenth of an inch of water pressure.

INCLINED TUBE MANOMETER

However, if one of the tubes is made at an angle to the other tube, then the manometer can be read still more accurately.

In Fig. 5 the slanting tube B is at an angle of about 84° from the vertical tube A. A rise of 1 in. in tube A causes a rise of 1 in. in tube B, but due to the inclination of tube B the distance along tube B is 10 times as much as on tube A. Then 1 in. rise along tube B is equivalent to 1/10 of an inch in tube

(Concluded on next page)

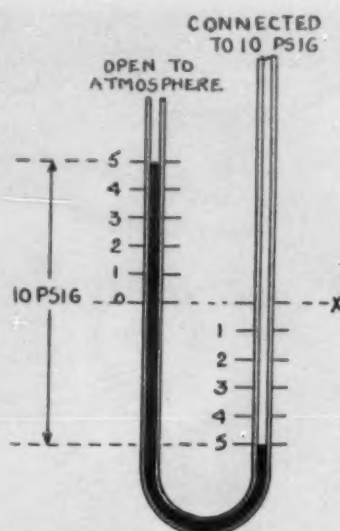


FIG. 1: Simple U tube mercury manometer connected to an evaporator at 10 p.s.i.g. pressure.

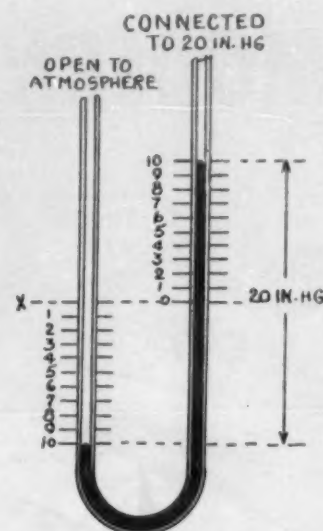
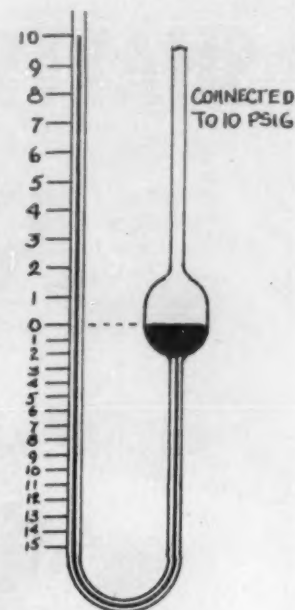


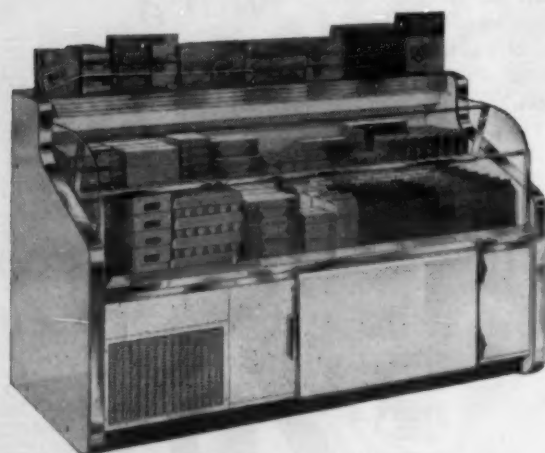
FIG. 2: Simple U tube mercury manometer connected to an evaporator at 20 in. hg. pressure.



6' x 3' = 24 sq. feet

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REFRIGERATED CASE
For Dairy Products, Meats, Vegetables

Yes, you sell something extra when you sell Schmidt. In floor space measuring only 3' by 6', this Schmidt case gives 18 square feet of refrigerated space plus 6 3/4 square feet of non-refrigerated display space . . . a total of more than 24 square feet of display! There's extra value, too, in the 13 cubic feet of refrigerated storage!



- Completely self-contained
- Forced air refrigeration
- Fits through standard door
- Plug it in anywhere
- No installation costs

There's a big market for this Schmidt case, since most store floor space is at a premium. You can sell at least one every week!

Help your customers make money—save money. Write for details.



THE C. SCHMIDT COMPANY

1712 JOHN STREET — CINCINNATI 14, OHIO

85th Anniversary

For more information about products advertised on this page use Information Center, page 24.

Here is your gauge...

...for permanent installation on FREON-12 and FREON-22 systems...

Today's gauge for today's job on those Freon systems. Highly accurate and built down to the last detail to stay accurate.

The corresponding temperature scales are in color. Note the wide ranges of sizes and readings in F-12 and F-22 types.

Here is the gauge for permanent installation on refrigeration systems . . . with the Marsh "Recalibrator" to keep it permanently accurate. Write for facts or See Your Jobber

MARSH INSTRUMENT CO. Sales Affiliate of Jas. P. Marsh Corporation
Dept. D, Skokie, Ill. • Marsh Instrument & Valve Co. (Canada) Ltd., 8407
180th Street, Edmonton Alberta • Export Dept., 3501 Howard Street, Skokie, Ill.

MARSH Refrigeration Instruments

GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES

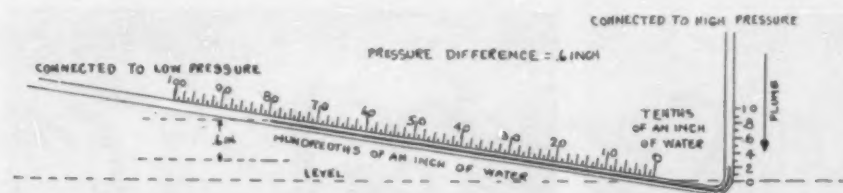


FIG. 5—Draft gauge type of inclined tube manometer, graduated to read in hundredths of an inch of water pressure. Maximum reading, 1 inch of water pressure.

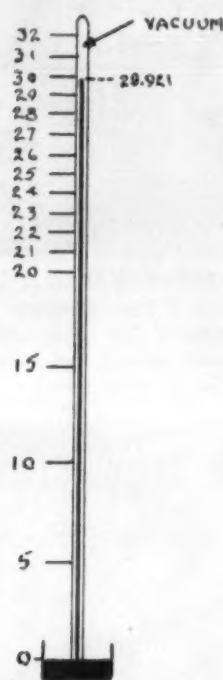


FIG. 4—Schematic mercury barometer, another type of manometer.

Manometers --

(Concluded from preceding page)

A, and 1/10 of an inch in tube B is equivalent to 1/100 of an inch in tube A. Thus this instrument can be read quite accurately to 1/100 of an inch of water pressure, and estimated even closer.

RED OIL INSTEAD OF WATER

The inclination of 84° gives a 10 to 1 reading using water. However, water is not used, for it is necessary to use a liquid that does not adhere to the tube at the top of the liquid column. Mineral oils are used that form a "meniscus" or round top that is necessary for accuracy. A red dye is used in the oil so that the liquid column and meniscus can be readily and accurately read.

Another advantage of the oil is that its density is less than that of water, so an angle of 81° can be used; that is, the inclined tube is 9° off of horizontal.

Inclined tube manometers can be made in various sizes and with the inclined tube at various angles according to the range of pressures to be measured, and the required accuracy.

The more accurate the reading, that is, the smaller the scale divisions, the more neces-

sary it is for the manometer to be carefully leveled.

DIAL-TYPE GAUGES DISPLACING MANOMETERS

Except in laboratory or certified test work, the dial-type gauge has about displaced the manometer in most fields, even in the draft-gauge type, that reads accurately in one-hundredth of an inch of water pressure which is equivalent to .00036 or approximately four ten-thousandths of a pound per square inch.

Sterner Heads Division Of General Controls

GLENDAL, Calif.—Douglas S. Sterner has rejoined General Controls Co. after a year's absence as district manager for Typhoon Air Conditioning Co., in Atlanta.



D. S. Sterner

Sterner has been named manager of the General Controls air conditioning - refrigeration division with headquarters at the executive offices here, it was announced by J. F. Ray, vice president in charge of sales.

Sterner formerly was associated with General Controls at the firm's midwestern headquarters in Skokie, Ill.

Servel Announces 9 Field Appointments

EVANSVILLE, Ind.—Field appointments for seven district managers and two sales representatives were announced recently by Roland D. Payne, sales manager of the home appliance sales division of Servel, Inc.

The district managers, their new headquarters, and previous positions follows:

E. A. Dunham, New York City, formerly manager of the Philadelphia district; Emil P. Nensel, Philadelphia, formerly manager of the company's sales service department at the factory; P. E. Arnold, Chicago, formerly manager of the Los Angeles district; Hollis G. Hayes, Washington, D. C., formerly dealer representative at the company's Chicago branch; Gene Holzschuh, Seattle, formerly regional appliance service

representative in the Los Angeles area; James G. Hayden, Minneapolis, formerly sales representative in Boston; Carl P. Duke, Omaha, formerly sales representative in Philadelphia.

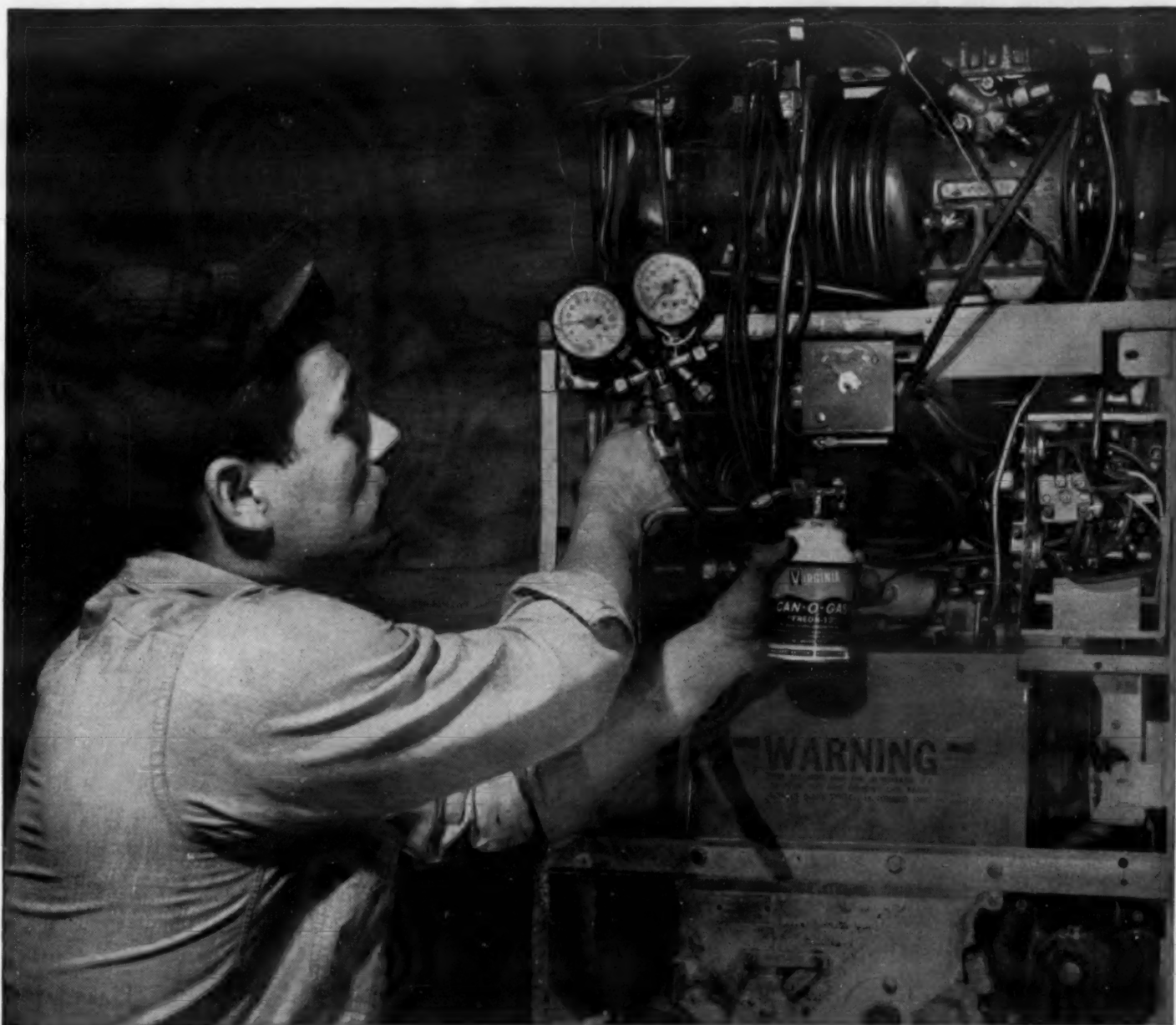
Dunham and Arnold will also serve as managers of Servel branches in New York City and Chicago, respectively.

New sales representative assignments will station Richard Roza with the company's Chicago branch and Andrew Forbes in Los Angeles.

Lewyt Names First Foreign Distributor

BROOKLYN — Lewyt Air Conditioner Corp. has named its first distributor outside the United States.

Irving Bottner, vice president, said the James George Capriles Co. has been named to distribute the Lewyt built-in wall air conditioner in Caracas, Venezuela.



Easiest, quickest way to add a charge . . . use Can-O-Gas

The service and maintenance trades have discovered that the popular refrigerants in throw-away cans are ideal (1) for charging water and beverage coolers; (2) freezer cabinets and automotive air-conditioning systems. They are especially suited for adding critical charges. No deposit—no empties to return. Can-O-Gas is precision filled to assure high quality and low moisture. Detachable opener tools (illustrated below) available at small cost.

Four Can-O-Gas refrigerants are now available. Sulfur Dioxide and "Freon-114"* come in 16-oz. cans; "Freon-12"* in a 15-oz. can; and "Freon-22"* in the new 2-lb. size. "Virginia" also makes Extra Dry Esotoo, the refrigeration grade SO₂-V-Meth-L, methyl chloride specially prepared for refrigeration use—and distributes a complete line of Kinetic Chemical's "Freons." These are available in all popular cylinder sizes.

Ask your wholesaler for these fine products, or write Refrigeration Division, VIRGINIA SMELTING CO., Dept. 63, West Norfolk, Va.

*T. M. Reg. U.S. Pat. Off., Du Pont's



ESOTOO • KINETIC CHEMICAL'S "FREON" REFRIGERANTS
V-METH-L • CAN-O-GAS • PERMAGUM • PRESSTITE TAPE
SUNISO REFRIGERATION OILS
Available in Canada and many other countries



Increase COOLING TOWER EFFICIENCY With

ASPIR-JET

Aspir-Jet, the new spray nozzle, increases efficiency of cooling towers by increasing water break-up and improving water distribution. This is accomplished by the Aspir-Jet unique design which atomizes the water with as little as one-half pound nozzle pressure. Formed of butyrate plastic, Aspir-Jets last longer because they do not corrode. Thousands already in use are giving better cooling even with lower than normal pressures.

• Available through Refrigeration and Air Conditioning Wholesalers.

Manufacturers & Refrigeration Wholesalers: If you are not now using or stocking this astounding new product, wire or write

THERMAL AGENCY

National Sales Agents
1515 DALLAS • HOUSTON, TEXAS



"Fitzall" valve used on 15 and 16-oz. cans.



"Fitzall" valve used on 2-lb. can.



Clip-On opener is perfect where valve is not needed.

Seen At ARI Exposition

For further information on items shown on this page, use the key numbers and information center blank on page 24.



KEY NO. E-12295

HIGHLIGHTING the Tranter Mfg., Inc. booth was this Mark series "Kold-Trux" continuous system for refrigerated trucks. James R. Tranter, president, and H. E. Guyelman, executive vice president of the firm, look on.



KEY NO. E-12296

GATHERED around the 3-ton, 3-W2 wood cooling tower, "Aqualower," in the Marley Co. booth, viewing proceedings are Sam Rothman and Jack Breger, Atlantic Refrigeration Service, Mt. Vernon, N. Y. contractor, John L. Murphy, Marley sales representative, C. Valentine, Atlantic Westchester, Inc. of Mt. Vernon, N. Y., and talking to them, Walter Starke, Marley sales engineer.



KEY NO. E-12297

HERE R. J. Hansen, national sales manager of Lipman Div., Yates-American Machine Co., poses with models of its "Cubes" (evaporator, blower, and compressor assemblies) for air conditioning.



KEY NO. E-12298

HOW AIRTEMP'S new Imperial room air conditioner model can be installed "in-the-wall" in an attractive manner was demonstrated in a special setting in the Chrysler Airtemp exhibit. Bernadette Regan helps to grace the setting.



KEY NO. E-12299

POINTING OUT the round Minneapolis-Honeywell Regulator Co. residential air conditioning control is J. F. Smith of the Syracuse, N. Y. branch to John W. Andrews, Bridgeport Thermostat, Bridgeport, Conn., and George Hoeftel of M-H Hartford, Conn. office.



KEY NO. E-122100

A SPECIAL demonstrator model just for the Exposition is seen in the Wilson Mfg. Co. booth. R. A. Grier, district sales manager for the firm, tells Jim Redcliff, another Wilson district sales manager, and Robert E. Murphy of Murphy Sales & Service, Camden, N. J. contractor, all about the salient features of the demonstrator.



KEY NO. E-122101

VENTURI-FLO refrigerant distributor that works in any position, had highlighted spot in Alco Valve Co. booth. John Dube, Alco's president, looks over unusual display of revolving valve and distributor connections.



KEY NO. E-122103

SOLENOID VALVES for all coils needs, with construction featured by a single size coil assembly and plunger, were spotlighted by Jackes-Evans Mfg. Co. F. J. Maurer of Victory Metal Co. (left) looks over the valves with Frank J. Vargo of Jackes-Evans.



KEY NO. E-122104

GATHERED AROUND Creamery Package Mfg. Co.'s new 250-gal. "Milkeeper" farm bulk milk cooler are (from l. to r.) Fred Hohenhorst, assistant advertising manager; G. S. Rose, manager, C-P Philadelphia Branch and R. D. Bell, assistant commercial sales manager.



KEY NO. E-122102

SPOTLIGHTED in the Kero-test Mfg. Co. booth were the R24 and R224 refrigerant valves, having a nylon seat and a smaller cap than formerly. Alex Mass, George N. Hersey, Carl A. Witt (holding valve) and Austin Jones discuss its features.



LARKIN HUMI-TEMP UNIT

For clean, smart lines, satin-smooth finish, harmonious color and overall good looks—Larkin leads. Behind this beauty is the quality and performance that keeps Larkin out in front!

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

519 MEMORIAL DR., S.E. • ATLANTA, GA.



KEY NO. E-122105

A humidifier for a duct system is demonstrated by Herb Putzbach, sales representative of Walton Laboratories, Inc.



KEY NO. E-122106

CENTER of interest for Anthony J. Ruscito and Andrew S. Karlatos, sales engineers for Sprague Electric Co., is this split capacitor motor starter with plastic case for home central units.

HERE IS A BIG MONEY-SAVER

The New Low Cost

Portable Hastings

"HOIST-IT"

2 MEN

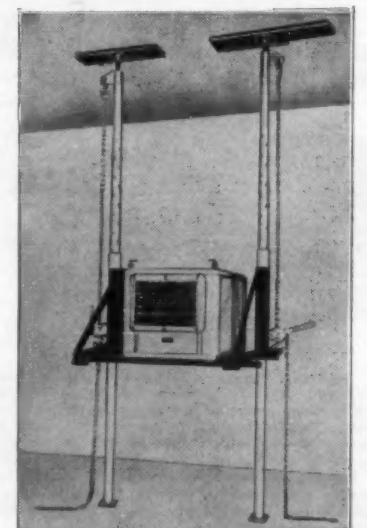
Can Easily and Safely

Raise 4,000 Lbs.

Up to 18 ft.

In One Hour

•
Ideal for
All Types of
Equipment
•



Write for Information and Price

HASTINGS AIR CONTROL, INC.

3215 Leavenworth, Dept. AC-12, Omaha, Nebr.

Frozen Food Fixtures --

(Concluded from Page 1, Col. 4)

frozen food industry trade publications to the effect that the case manufacturers had fallen down on the job of designing suitable equipment, or were either incapable of or not interested in working toward a solution of the so-called bottleneck in retail frozen food distribution.

Committee Recognizes Need for More Capacity

Stone said his committee was fully aware of the fact that the availability of low temperature storage and display fixtures making greater use of the food retailer's "air rights" by enlarging their capacity without requiring additional floor area would offer only a partial solution to the over-all problem.

It was pointed out that the store operator is being constantly pressured to stock new lines of frozen foods in an effort to promote consumer acceptance, and, being unwilling to gamble on unknown brands, finds that his best defense is to plead that his present fixture capacity is already being overtaxed, and even if he wants to invest in additional units, he doesn't have enough floor space.

It was also emphasized that the average retailer lacks statistics showing the relationship between the various departments in his store, and their profit and turnover characteristics.

One of the chief objectives of the Task Force Committee, Stone revealed, will be to develop such data through an extensive research and survey program it plans to initiate in the near future.

To Study Profit Ratios

Among the facts the committee hopes to establish is the rate of profit the merchant can expect from each type of perishable food being handled, and how much space should be devoted to each in order to provide the greatest possible return for his purchasing dollar.

Referring to the charge that had been made accusing the fixture manufacturers of failing to offer low-cost equipment, on the

theory that cheaper fixtures would boost frozen food volume, several of the CRMA representatives explained that designing and building a suitable low temperature display case with assurance of long and efficient service imposed important technological problems, and that any premium the merchant might be obliged to pay over and above the cost of comparable normal temperature equipment accurately reflected essential differences in actual production cost.

They reminded the group that the merchant is not so concerned with the price of his equipment as he is with the opportunity for greater volume and faster turn-over a particular type of perishable food affords.

The NAFPP delegates were informed that the display case manufacturers had been busy for years on improved frozen food fixture designs aimed at overcoming the floor space limitation problem, and that several such models were already on the market with others approaching the unveiling stage as rapidly as laboratory and field service testing prove their ability to do the kind of job the merchant is entitled to expect.

Backroom Storage Recommended

It was also suggested that much could be done to relieve the present capacity shortage through backroom freezer storage units of the walk-in cooler type, and the NAFPP delegates were assured that contrary to the first impressions gained by their committee, there is no shortage of such equipment, and most commercial refrigerator manufacturers building low temperature fixtures offer a variety of bulk storage models.

Attending the conference on behalf of NAFPP, in addition to Stone, were C. Courtney Seabrook, Seabrook Farms Co., and Frank Penn, engineer for Minute Maid.

Representatives of the fixture group were William J. Stelpflug, president, Hussmann Refrigeration, Inc., and president of CRMA; Joseph W. Krall, president, McCray Refrigerator Co., and CRMA vice president; Roger D. Jacobs, executive vice president, The Warren Co., and member of the CRMA executive committee; Frederic A. Celler, general sales manager, The Brewer-Titchener Corp.; C. V. Hill, president, C. V. Hill & Co.; Reese L. Harrison, president, Friedrich Refrigerators, Inc.; John Romadka, president, Federal Refrigerator Mfg. Co.; and CRMA's executive secretary, Paul H. Sullivan. William Arzberger, Carrier Corp., represented the freezer division of that organization.

At the close of the discussion, the suggestion was made by the CRMA delegates that the Task Force Committee visit a number of industry factories on their fact-finding mission so that by consulting with engineering and production personnel they could gain a first-hand acquaintance with the complexities of refrigerated fixture manufacturing.

Stone warmly welcomed the suggestion and said plans would be made to visit as many plants as possible.



ACTIVITIES of National Commercial Refrigerator Sales Association for the coming year will be directed by the group pictured here. Seated (l. to r.): Milton I. Schwartz, treasurer; S. W. Davis, Jr., first vice president; S. G. Taylor, president; Marie H. Lawton, executive secretary; Harry A. Hattenbach, second vice president. Standing (front row): C. S. White, George S. Wiedemer, Ray Winther, Fred Jacob, Sherman W. Bushnell, Phil Erb; (second row): Russ Mainland, George Schoenbacher, R. J. Wischusen, I. W. Shell, Dudley M. Cawthon, E. B. Ward, and Frank D. Stella.

NCRSA Convention --

(Concluded from Page 1, Col. 3)

"I assure you that our association is prepared to cooperate and participate fully with you in any project that would help end the cabinet bottleneck in food stores," he declared.

He said a preliminary meeting with refrigeration industry representatives was planned during the exposition to discuss this entire area. He hoped that a constructive program of action would result.

Mentley suggested that commercial refrigerator distributors might help the retail grocer with his frozen food problems by assisting him to get faster turnover out of his present equipment before trying to sell him additional cases.

Other speakers on the NCRSA program focussed attention on the need for more emphasis on selling and sales training and on greater cooperation between manufacturers and distributors.

Retiring President George Wiedemer sounded the keynote of the convention when he said: "It is reasonable to believe we are in for increased labor costs this coming spring. It also is apparent from all statistics that 1956 can be the biggest year ever for the refrigeration industry."

"Whether we take advantage of these facts and prepare for them can mean the difference between increased net profit and a decline in volume and net profits. We must be prepared to meet this challenge."

He urged fellow distributors to increase their sales departments and train their men. He called on manufacturers for more help in doing this.

S. G. Taylor of Des Moines, Iowa, was elected president of NCRSA for the coming year.

S. W. Davis, Jr., is first vice

president; Harry A. Hattenbach, second vice president; and Milton I. Schwartz, treasurer.

Newly-elected directors include Phil Erb, Fred Jacob, E. B. Ward, and Dudley M. Cawthon (re-elected). Continuing as directors will be Sherman W. Bushnell, R. H. Winther, J. S. Lipack, F. W. Owen, and George Schoenbacher.

Mullins Plans To Merge With American-Standard

WARREN, Ohio — Mullins Mfg. Corp., producer of Youngstown Kitchens, will merge with American Radiator & Standard Sanitary Corp., if stockholders vote approval, the heads of both jointly announced Dec. 1.

Terms of the merger agreement call for Mullins to become the Youngstown Kitchens Div. of American-Standard, "carrying out all present responsibilities and functions."

No change will be made in the distribution methods of Youngstown Kitchens or the products of any other American-Standard division or in present sales policies or personnel.

American-Standard's president, Joseph A. Grazier, said, "In the past, kitchens were furnished with individual pieces of equipment, and the principal item supplied by American-Standard has been the enameled iron sink."

"Now, however, both consumers and builders are showing a preference for buying packaged kitchens. The merger will permit American-Standard, through its Youngstown Kitchens Div., to compete effectively in this new and different market."

Mfrs. Charged --

(Concluded from Page 1, Col. 2)

ances not granted to other dealers.

All these actions, the plaintiffs declare, lessen competition and tend to create a monopoly in violation of the Clayton Act as amended by section 1 of the Robinson-Patman Act.

The suit was filed in U. S. District Court here.

The two discount houses named are Polk Bros. Central Appliance & Furniture Co. and Grossi Bros., Inc.

The manufacturers and distributors named are Graybar Electric Co.; Westinghouse Electric Corp.; Westinghouse Electric Supply Co.; Remco, Inc.; Maytag-Chicago Corp.; Magic Chef, Inc.; Radio Corp. of America; RCA-Victor Distributing Corp.; R. Cooper, Jr., Inc.; Sampson Co.; Philco Corp.; and Philco Distributors, Inc.

Plaintiffs, who are all south side stores and members of the recently formed Independent Appliance Dealers Association, are Wentworth Electric & Hardware, Inc.; Chelton Radio & Appliance; Cottage Radio & Appliance Co.; Cottage Radio & Appliance Co., Inc.; Carr's Radio & Appliance Store; Bay Furniture Co.; Gross Radio & Electric Shop; Reel Appliance Co.; and Gold's Hardware & Major Appliances.

They charge all 12 manufacturers and distributors with selling to Polk and Grossi at prices lower than they could buy. Prices to these two, they claim, were sometimes so low that Polk and Grossi could sell some items at retail for about the same price as the other retailers had to pay wholesale.

They said all but Graybar denied them advertising and other allowances given to Polk and Grossi. Graybar, Westinghouse, and Westinghouse Supply were charged with supplying paid salesmen and demonstrators only to Polk and Grossi.

Plaintiffs declared in their suit that such discrimination caused them to lose customers and servicing business.

Detroit ASRE Will Hear About Heat Pump

DETROIT — Advantages and applications of the electric heat pump using air source and air sink will be described before a joint meeting of the Detroit section of the American Society of Refrigerating Engineers and the Michigan chapter of the American Society of Heating and Air Conditioning Engineers at 8 p.m., Monday, Dec. 12 in the Rackham building here.

John G. Yergat, General Electric Co., will give the talk.

...for the BEST solution

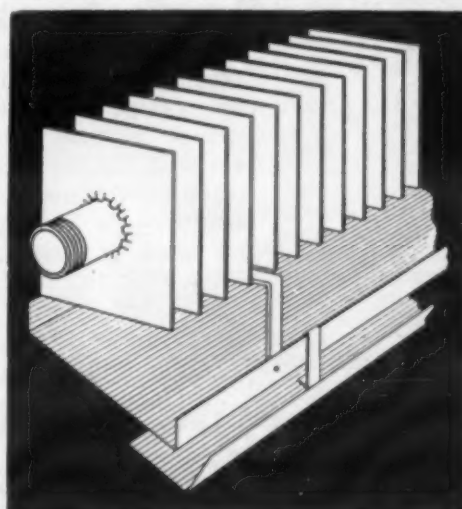
Think of Tenney!



Performance-Proven Units for every Refrigeration and Air-Conditioning Application.

Tenney
ENGINEERING, INC.

1090 SPRINGFIELD ROAD, UNION, N. J.
Plants: Union, N. J. and Baltimore, Md.
ENGINEERS AND MANUFACTURERS OF REFRIGERATION AND ENVIRONMENTAL TEST EQUIPMENT



Square-Finned Pipe

Is ideal for cold storages, freezers, food processing and meat packing plants, etc. Manufactured from 2" dia. F.W. steel pipe and 7" square 14-gauge fins, Frick finned pipe gives maximum heat transfer per dollar invested.

Various fin spacings and pipe lengths are available—all hot-dip galvanized. Each fin is bonded to the pipe under tons of hydraulic pressure.

See your nearest Frick Branch or Distributor for complete details, or write for Bul. 158.

Frick Co.
WARRINGTON, PENNA. U.S.A.



E. W. Lyon, director of air conditioner sales for Amana, demonstrates the new Scot model.

Amana--

(Concluded from Page 1)

throughout the United States. Attending the meeting here were 100 distributor representatives from the southeast.

J. A. Rishel, Jr., the firm's general sales manager who presided at the meeting here, reported that Amana planned to build 50,000 air conditioners for the 1956 season, twice 1955 production. The company, he said, sold out its 1955 in late July.

"With sales of room air conditioners in 1956 running close to 1,600,000 units and half a billion dollars at retail, and with installations of central systems scheduled to show a 50% increase up to 150,000 to 175,000 units, the coming year should be a record year," Rishel said.

The four Amana air conditioner lines for 1956, introduced by E. W. Lyon, Amana's director of air conditioner sales, are:

1. The "Year 'Round" line of four models in the 1/2, 3/4, 1, and 1 1/2-hp. sizes for installation in standard and casement windows, featuring the timer that automatically turns the unit on or off at pre-set hours even after skipping one or two days, activated charcoal filter, increased cooling power and heating capacity, and a single glider control, is priced from \$299.50 to \$489.50 at retail.

2. The "De Luxe" line, in 3/4, 1, and 1 1/2-hp. sizes, for installation in standard and casement windows, with increased cooling power, adjustable installation in any one of 23 positions, diffuser vanes, thermostats, to sell at \$319.50 to \$419.50.

3. The budget-priced "Scot" line of room air conditioners, in 1/2 and 3/4-hp. sizes, providing cooling, dehumidification, filtration, and circulation.

4. The "Central" line of packaged, self-contained air-cooled central air conditioners in 2 and 3 1/2-hp. sizes.

In the Year 'Round models, any one of six different combinations of cooling, heating, dehumidification, and ventilation may be selected by adjusting a simple glider control across the top of the unit, it was pointed out.

The necessary switching of damper, compressor, and fans is accomplished automatically once the control is set. Each of the seven control positions is color-coded and softly illuminated. A "chill-check" heating unit is provided for use during the late evening or early fall chills.

Both the Year 'Round and DeLuxe models are designed for flush mounting as one of 23 possible installed positions. They are equipped with thermostats to automatically maintain the desired temperature.

"They are constructed electri-

cally to conform to the new National Electrical Code, so as to require less elaborate and less expensive wiring installations," Amana stated. "Each of the 3/4-hp. models has a current consumption of less than 12 amps and may be installed on a single outlet 15-amp circuit. The 1/2-hp. models may be installed on a 115-volt multiple outlet circuit.

"Both lines are engineered for quiet, vibrationless operation.

"A unique feature of the units is their drip-free system of moisture removal. Water condensed by the units is thoroughly mixed and vaporized in the air stream.

"Cooling power of Amana's 1956 Year 'Round and De Luxe room units has been boosted by a newly-designed air flow system which can handle 20-25% more air than before.

"Involved in the new system are a 7-in. blower wheel, instead of 6 1/2 in. formerly, and a 12-in. six-blade condenser fan instead of an 11-in. four-blade fan used previously, and more powerful fan motors."

Cabinets for Year 'Round and De Luxe units are interchangeable, so that all models will fit any opening more than 25 in. wide and 15 in. high.

The 1/2 and 3/4-hp. Scot models, for operation on 115-volt lines only, are compactly constructed, in a 23-in. deep, flush mounting cabinet. A single vane deflector is another feature. Operation of a "Fan-Cool-Off" toggle switch controls operation of the unit.

Amana's new self-contained, air-cooled air conditioners for residential cooling may be installed in attic, utility room, crawl space, or outside the home.

Amana's central systems may be connected to furnaces for operation in conjunction with a warm air heating system and existing ductwork, or they may be installed to operate with an independent duct system.

Compactness of the unit, absence of remote refrigerant lines, water pipe connections or remote condenser, and availability of prefabricated ducts will make it possible for any appliance dealer with a competent service department, or even a skilled "do-it-yourself" craftsman to install one of the systems at minimum cost.

"The 3 1/2-hp. unit has twin 1 3/4-hp. compressors for efficient operation," it was stated. One or both compressors operate and cycle at the same time, depending on the cooling need.

"The unit's fan may be operated without cooling, too, when circulation only is wanted.

YEAR 'ROUND LINE

Model No.	Hp.	Volt.	Suggested Retail Price
50A-1, 50A-2	1/2	115	\$229.50
50AL-1, 50AL-2*	1/2	115	
75A-1, 75A-2	3/4	115	\$369.50
75AL-1, 75AL-2*	3/4	115	
75A-3	1	230	\$369.50
75A-3	1	208	\$369.50
100A-3, 100AL-3	1 1/2	230	\$399.50
100A-5, 100AL-5	1 1/2	208	\$399.50
150A-3, 150AL-3	1 3/4	230	\$489.50
150A-5, 150AL-5	1 3/4	208	\$489.50

DE LUXE LINE

75D-1, 75D-2	3/4	115	\$319.50
75D-3	3/4	230	\$319.50
75D-5	3/4	208	\$319.50
100D-3	1	230	\$349.50
100D-5	1	208	\$349.50
150D-3	1 1/2	230	\$419.50
150D-5	1 1/2	208	\$419.50

SCOT LINE

50S-2	1/2	115	
75S-2	3/4	115	

CENTRAL LINE

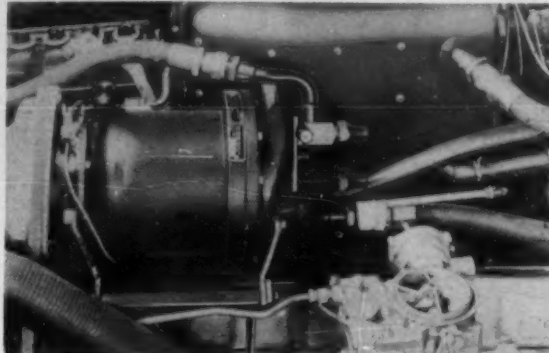
200C-3	2	230	
350C-3	3 1/2	230	

*Ivory front.

Servicing Automobile Air Conditioners

BY C. DALE MERICLE

This instalment concludes the discussion of the automobile air conditioner supplied by Chevrolet as a factory installed accessory.



LEFT: Fig. 9 shows thermometer attached to suction line at compressor to check operation of expansion valve.

BELOW: Fig. 10—Adjusting expansion valve on 1955 Chevrolet air conditioner. Compressor has been moved out of way and access plate removed from conditioning unit.

CHEVROLET (3)

Chevrolet Motor Div.
General Motors Corp.
Detroit 2, Mich.

SERVICE HINTS

Evacuating System

Evacuation of the Chevrolet air conditioner is performed in the conventional manner.

Chevrolet recommends the use of the double evacuation method. With controls set for maximum refrigeration and a jumper wire installed between the hot side of the battery and the clutch coil, the engine should be run at idle to obtain a vacuum of 28 in. for five min.

The engine is then stopped and the system should hold a vacuum of 28 in. for three minutes.

If the system won't hold the 28-in. vacuum for three minutes, there is a leak or the compressor is faulty.

If the system holds the 28-in. vacuum, the vacuum should be broken with "Freon-12," and the evacuation procedure repeated.

Leaks, of course, would have to be repaired. To check for a faulty compressor, close suction service valve (fully clockwise). If vacuum does not hold with valve closed, compressor is at fault and should be checked.

Charging System

Refrigerant used in the Chevrolet conditioner is "Freon-12." Charge is 2 1/2 lbs.

The system is charged through the low side of the compressor with the car engine running at fast idle and a jumper wire connected between hot side of battery and hot lead of magnetic clutch. Purpose of the jumper wire, of course, is to by-pass the thermostat and keep the clutch engaged constantly during the charging operation. The jumper wire should be removed following charging.

Operating Pressures

To enable the serviceman to determine if the air conditioning system is operating in the normal manner, Chevrolet has prepared the accompanying data which shows pressures and temperatures to be expected when the unit is working satisfactorily.

The performance test is conducted under these conditions:

1. Doors and windows closed.
2. Hood down.
3. Controls set for full recirculating air, "hi" blower, and maximum cooling ("refr" control in full down position).



"Heat" control must be off (full up position).

4. Engine running at 1,500 r.p.m.

5. System must run for about 10 minutes before checking pressures and temperatures.

6. Ambient temperature is taken at radiator grille.

1955 Chevrolet Operating Pressures, Temperatures

Ambient	Head	Suction	Maximum R.H. Nozzle Temp.
(°F.)	(p.s.i.g.)	(p.s.i.g.)	(°F.)
70	145-165	12-16	44
80	180-200	15-19	44
90	215-235	18-22	44
100	245-265	21-25	48

Diagnosis of Complaints

Drafts.

These can be caused by:

a. Poor air circulation (re-adjust air outlets).

b. Car temperature too low.

(Check thermostat for points stuck closed and improper location of bulb. Check relay for stuck points. Check control panel linkage. Check clutch pulley for constant engagement.)

Shortage of air supply at outlets.

Possible causes are:

a. Car temperature up.

(Check fan speeds, cooling coil for passage of air, position of air dampers.)

b. Low fan speed.

(Check for voltage at fan

motor, motor bearings, direction of fan motor rotation.)

Hissing noise at expansion valve.

a. Shortage of refrigerant (also indicated at sight glass).

(Locate and repair leak and add refrigerant.)

b. Restriction in liquid line.

(Check receiver-dehydrator, filter screen at expansion valve, possible kinks in liquid line.)

Partial frosting and sweating of cooling unit or poor cooling.

a. Shortage of refrigerant.

b. Expansion valve improperly adjusted (see later section on adjusting expansion valve.)

c. Restricted or clogged liquid line.

d. Improperly installed or adjusted linkage between control panel and thermostatic switch or water control valve.

Failure to cool.

There are eight possible causes for this condition as outlined in "a" through "h" below:

a. Faulty expansion valve.

(Valve may be out of adjustment; power element may be discharged; filter screen may be stopped up.)

b. Stopped up liquid line or receiver-dehydrator.

c. Faulty thermostatic switch operation.

(Check fuse, linkage from control panel, bulb location, thermostatic switch contacts and terminal connections, relay contacts and terminal connections, clutch coil connections, and coil.)

d. Faulty clutch operation.

(Check clutch for slippage by watching bolt in center of compressor shaft, which should turn at same speed as pulley; check belt slippage; check air gap, which should be .025 in. to .035 in.)

e. Complete loss of refrigerant charge.

(Locate and repair leaks before evacuating and re-charging system.)

f. Blower not operating properly.

(Check electrical circuit, motor, and fan.)

g. Insufficient air.

(Check motor speed, check for restrictions in ducts, check for clogged cooling and heating coils.)

h. Heater thermostat does not cut off circulation of engine coolant through heater coil with "heat" control in off position.

(Check temperature of copper tube entering conditioning unit below upper heater hose. Coolant from heater control thermostat flows through this tube, and

(Concluded on next page)

SUPER-FLO FILTER-DRIER



MOLDED REMCAL DRYING FIBERGLAS DEPTH FILTERING

Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglass depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.

REMCO INCORPORATED
ZELIENOPLE, PA.

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

NAVY

Navy Purchasing Office, 4th & Independence Ave., Washington, D. C.
Attn: SFF-1A.

Following Described Items are under IFB 600-601-56, Bid Opening 27 Dec 55.
RANGE, ELECTRIC, 30 ins. wide, with 36 in. and 18 in. cooking units, for 118/236 volt, 62 ea.—REFRIGERATOR, ELECTRIC, size 10, with 6.6 cu. ft. storage area and 1.2 cu. ft. frozen food area, 65 ea.

AIR FORCE

Air Force Contracting Office, 3800th Air Base Wing,
Maxwell Air Force Base, Ala.

INSTALLATION OF AIR CONDITIONING SYSTEM in Building 844, Maxwell Air Force Base, Ala., Drawing Numbers 844-R-61A, 844-R-71B, 844-R-61C, 844-E-61A and 844-E-61B—Job—IFB 01-600-56-67B—Bid Opening 16 Dec 55.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Business Service Center, Region 3,
7th & D Sts., S.W., Washington 25, D. C.

Following Items are procured under IFB R2-H-69456—Bid Opening 12-19-55.
CONDENSING UNITS, Nominal 30 tons, 2 ea.—COOLING TOWER, Nominal 60 tons, 1 ea.—PUMP, 1 ea.—AIR HANDLER, 1 ea.—FAN, PROPELLER, 1 ea.—COIL, STEAM, 1 ea.—GRILLES, size 30" x 6", with volume and distribution dampers, 20 ea.

AIR CONDITIONING PRINT SHOP, U. S. Department of Commerce Bldg., 14th St. and Constitution Ave., W., Washington, D. C.—Job—IFB GS-R3-B-4004—Bid Opening 12-29-55.

General Services Administration, Region 5, 575 U. S. Courthouse,
219 S. Clark St., Chicago, Ill.

PARTIAL AIR CONDITIONING FOR COURTS for the U. S. Post Office & Courthouse, Danville, Ill.—Job—IFB C&R 695—Bid Opening 12-22-55.

CONTRACTS AWARDED THROUGH DEC. 5, 1955

General Services Administration, 50 Seventh St., N.E., Atlanta, Ga.

New Air Conditioning and New Electrical Work, U. S. Post Office and Court House, Oxford, Miss. CR4-1101; GS-04-B-3466—Job—\$10,896—Air Temperature, Inc., 283 Poplar Ave., Memphis, Tenn.

Corps of Engineers, Office of the District Engineer, Omaha District,
1709 Jackson St., Omaha, Neb.

Construction of Central Heating Plant and High Temperature Hot Water Distribution System, Minot AFB, Minot, N. D.—Contract No. DA-25-066-eng-3789 (IFB ENG-25-066-56-35)—Job—\$1,298,290—Charles Harris Co., St. Paul, Minn.

Auto Air Conditioning--

(Concluded from preceding page)
if hot coolant flow is indicated, adjust controls or replace thermostat.)

Too cool.

a. Faulty thermostatic switch.
(Check thermostat setting and control panel linkage of thermostat; check location of thermostat bulb; check contacts in thermostat and clutch coil relay.)

b. Faulty clutch.

(Check for stuck clutch.)

High head pressure.

This can be caused by:

a. Air or excessive refrigerant in system.
b. Blocked air circulation through condenser.

c. High engine temperature.

Low head pressure.

Causes can be:

a. Shortage of refrigerant.
b. Faulty compressor.
High Suction pressure.

Causes can be:

a. Over-feeding by expansion valve.
(Check for good contact of expansion valve bulb, as well as valve adjustment.)

b. Faulty compressor.
c. Excessive head pressure.
d. Clutch slipping.

Low suction pressure.

Causes of low suction pressure can be:

a. Restriction in liquid line, suction line, receiver-dehydrator, or expansion valve screen.
b. Cooling coil dirty or iced up.
c. Clutch will not engage.
d. Shortage of refrigerant.

Checking Operation Of Expansion Valve

To determine if the expansion valve is operating properly, proceed as follows:

1. Start engine and operate at about 1,500 r.p.m. for 10 to 15 minutes with air conditioning controls on and a jumper wire connecting positive terminal of battery to hot lead of magnetic clutch.

2. Remove engine air cleaner and attach thermometer to suc-

tion line connection at compressor. (See Fig. 9).

The temperature at this point should read between 65° and 70° F.

If the temperature is not within this range, the expansion valve is out of adjustment, and is either starving the evaporator or permitting liquid refrigerant to "slop over" into the suction line.

In either event, adjust expansion valve as follows:

Adjusting Setting Of Expansion Valve

1. Stop engine, and remove air cleaner and refrigerant line retainer on top of radiator support.

2. Either loosen compressor brace and bracket pivot bolt to swing compressor away from conditioning unit, or detach compressor from support and brace and move compressor without breaking lines to gain access to cover plate on conditioning unit.

3. Remove access plate.

4. Remove hex cap from expansion valve.

5. If system was flooding over, the previous temperature test would have shown less than 65° F. Close expansion valve adjusting stem 1/2 turn clockwise. (See Fig. 10).

6. If preceding temperature test showed more than 70° F., the coil was starved. Open expansion valve setting 1/2 turn counterclockwise.

7. Replace cap on expansion valve, reassemble access cover, re-install compressor to normal position, adjust belt tension, and observe operation of system as described under "Checking Operation of Expansion Valve."

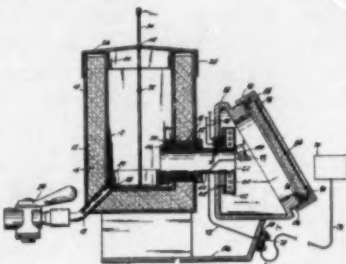
8. If necessary, repeat above adjustments of expansion valve by re-setting valve adjustment 1/2 turn at a time.

9. If these adjustments do not produce satisfactory results, the inlet screen may be clogged, the bulb of the expansion valve may be loose or improperly positioned on suction line, or the expansion valve may require replacement.

PATENTS

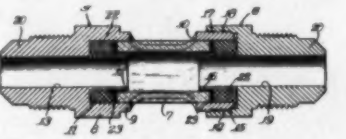
Week of August 9

2,714,818. DEW POINT INDICATOR. Abraham Donsky, Philadelphia, Pa., Henry Naubereit, Maple Shade, N. J., and Morris Paulovich, Malvern, Pa. Application Jan. 27, 1953, Serial No. 333,627. 4 Claims. (Cl. 73-17.) (Granted under Title 35, U. S. Code (1952), sec. 236.)



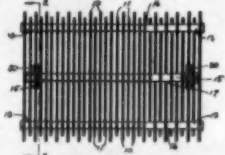
1. A dew point indicator comprising a casing having a chamber therein for holding refrigerant material, a substantially flat diaphragm connected to said casing, a first portion of one face of said diaphragm being in fluid communication with said chamber and a second portion of said one face of said diaphragm being blocked from fluid communication with said chamber, and a heating means connected to said casing, said heating means being positioned adjacent said second portion of said one face of said diaphragm and remote from said first portion of said one face of said diaphragm.

2,714,968. LIQUID INDICATOR. George E. Franck, Riverside, Ill., assignor to The Imperial Brass Mfg. Co., a corporation of Illinois.



1. A liquid indicator comprising, in combination, a main body member having a base portion, a windowed tubular extension, an internal tubular portion concentric with said windowed extension, an annular recess in said base portion in surrounding relation to said tubular portion and opening axially inwardly and a bore opening centrally through said base portion; an auxiliary body member having a base portion, an internal tubular portion, an axially inwardly opening annular recess in surrounding relation to said tubular portion and a bore opening axially of said base portion through said inner tubular portion; a ring of resilient material in the bottom of the annular recess in each of said body members; a sealing ring of material impervious and chemically inert to refrigerant overlying said first ring; a tube of transparent material receivable in the windowed tubular extension with its ends receivable in said annular recesses and bearing against said last named ring sealing the interior of the tube from communication out of the indicator; and cooperating means on said body members for securing the same together with the transparent tube in sealing engagement with said sealing rings.

2,714,939. ELECTROSTATIC PRECIPITATORS. Earl L. Richardson, Hyde Park, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application April 1, 1953, Serial No. 346,239. 3 Claims. (Cl. 183-7.)

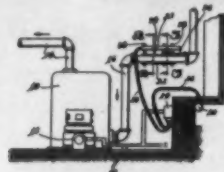


1. A collector cell for an electrostatic precipitator comprising a plurality of spaced, substantially parallel collector plates, means including tie rods and spacers around the tie rods for supporting alternate of said plates, the others of said plates having clearance openings through which said tie rods and spacers pass, and means for supporting said other plates from a pair of plates of said alternate plates, said means including slots in said plates of said pair, said slots extending inwardly from opposite sides of said plates of said pair, and insulators in said slots.

2,714,994. TEMPERATURE CONTROL APPARATUS HAVING A PLURALITY OF THERMAL RESPONSIVE DEVICES. John J. McGillis and Hugh D. McGillis, Brockton, Mass. Application Aug. 2, 1951, Serial No. 239,884. 2 Claims. (Cl. 236-91.)

1. In a building heating system having heat generating means and distribution conduits for conducting a heating medium within the building, including a return conduit for con-

ducting said medium back to the heat generating means, an insulating covering on said return conduit, a gas-filled thermally responsive device mounted adjacent to said covered conduit, said covering having an opening therein opposite said device whereby heat from said covered return conduit is



released through said opening into heating relation to said device, means for selectively varying the effective size of said opening through said covering thereby to vary the heating effect of said covered return conduit on the adjacent thermally responsive device, a second gas-filled thermally responsive device located exteriorly of said building and responsive to outside temperature, a pressure responsive device connected to both of said thermally responsive devices and responsive to gaseous pressure therein produced by the conjoint response of the two said thermally responsive devices respectively to heat from said return conduit and to outside temperature, mechanism controlling the operation of said heat generating means, and actuating means connecting said pressure responsive device and said controlling mechanism whereby said heat generating means is started and stopped solely in response to pressure changes in said pressure responsive device.

Olin Changes Name Of Patterned Metal

NEW YORK CITY—Olin Mathieson Chemical Corp. will sell its patterned metal used in heat and cold transfer under the trade name "Olin Roll-Bond," it was announced recently. It formerly was sold under the name "Western Roll-Bond."

"Olin Roll-Bond may be used in every industry dealing with temperature control," it was pointed out.

General Controls Names B. L. Lerch

GLENDALE, Calif.—B. L. Lerch has been appointed mid-west regional manager of General Controls Co., and his assistant, Norbert A. Grainer, has succeeded him as manager of the firm's Chicago branch, according to J. F. Ray, company vice president in charge of sales.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.
RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

EXPERIENCED REFRIGERATION & air conditioning service engineering manager, covering fifteen years in industry, interested in making connection with manufacturer or distributor. Qualified to assume over-all direction of service engineering, distributors, dealers, conduct installation, service schools, service manual formulating. Self starter, ability to influence, get along with people. BOX A5402, Air Conditioning & Refrigeration News.

MR. FREEZER manufacturer—Attention! Are your sales sleeping? Do you get a pang of jealousy when someone else's salesmen bring home the bacon and you get only the lard? Stop now and let me bring home that bacon to you. BOX A5403, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

CARRIER'S OLDEST dealer needs senior engineer—one preferably, but not necessarily, with a background of contract engineering experience with Carrier equipment—one who can follow through from survey to completion. Straight salary commensurate with ability. A real opportunity. Write giving outline of training and experience to THE SMITH & OBY COMPANY, 6107 Carnegie Avenue, Cleveland 3, Ohio.

MANUFACTURER'S REPRESENTATIVE with commercial refrigeration experience now covering midwestern and southwestern states to sell fast going line of commercial equipment. Write: PAUL R. STEWART, 1712 John Street, Cincinnati 14, Ohio.

EXPERIENCED SALES engineer for wholesale and retail operation of long-established Carrier distributor and contracting operation in Arizona. Salary and commission arrangements to fit fast-expanding residential market. Send full particulars and references to P. O. BOX 5296, Tucson, Arizona. Replies strictly confidential.

REFRIGERATION ENGINEER thoroughly experienced supervision, testing in commercial residential installation; high-type executive. Give complete information—age, experience, salary, references. Established manufacturer—Midwest. Replies confidential. BOX A5398, Air Conditioning & Refrigeration News.

SALES PERSONNEL are required by nationally known air conditioning manufacturer of complete line residential and commercial package equipment and system refrigeration and air handling components for expanded sales office locations in Midwest. Salary and expenses. Write giving full personal details, background, experience and salary requirement. Replies confidential. BOX A5400, Air Conditioning & Refrigeration News.

ESTABLISHED MANUFACTURER of air conditioning equipment needs district sales manager in several territories for packaged and central station equipment. Must be free to travel. Salary, travel allowances and incentive based on performance. Only men experienced in merchandising air conditioning equipment or allied lines acceptable. Send detailed resume to BOX A5401, Air Conditioning & Refrigeration News. Our employees know of this ad.

MANUFACTURERS' REPRESENTATIVES: A few choice territories available to established representatives calling on refrigeration wholesalers. Outstanding line of equipment assures high volume of repeat business. Please include complete information with your letter as to territory covered, number of salesmen, etc. Our present representatives know of this ad. BOX A5404, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED GRAVITY type walk-in or display case finned coils. Prefer new, but will consider used in good shape. Why not reduce that surplus inventory by sending me full specs and best cash price of either odd or large lots? ART DE DESROCHERS, Rte. 3, Wenatchee, Wash.

EQUIPMENT FOR SALE

WELL-KNOWN brand compressors—New 7 1/2 h.p. hermetics spring mountings, Model PH750A \$298.00. Air cooled condensing coils—New 4 row, copper tube, aluminum fin 8 per inch, 60" x 22" \$172.50. Well-known brand fan blades—New 24" dia., 4 blade aluminum, 4500 c.f.m. at 1140 r.p.m. \$9.75. Cooling coils—New 3 row copper tube, aluminum fin 8 per inch, 24" x 36" \$107.50. Well-known brand air cooled condensing unit—New model 025, 1/4 h.p. \$85.00. LIGHTHOUSE INC., 1775 East 30 St., Cleveland 14, Ohio. Cherry 1-7697.

NATIONALLY-FAMOUS HERMETIC units at fabulous discounts! Model P91 (1/4 h.p. pancake) \$29.50. S83 (1/4 h.p.) \$29.50. S64 (1/4 h.p.) \$31.00. S54 (1/4 h.p.) \$32.00. S44 (1/4 h.p.) \$33.00. S34 (1/4 h.p.) \$35.00. Also complete unit assembly (less dome) for use with 1/4, 1/2, or 3/4 h.p. dome, only \$9.00. 1/4 h.p. static condensers, \$1.10 each. All equipment brand new, ready for immediate shipment. MANN REFRIGERATION SUPPLY CO., 440 Lafayette St., New York, N. Y., GRamercy 3-8000.

200 ASSORTED hermetically sealed, window units, used, good condition. Best offer. WILLIAM A. SCHWARZ & SON, INC., 614 3rd. Avenue, New York 16, N. Y.

REFRIGERATION VALUES: Attention servicemen; send for our catalog of refrigeration parts; savings up to 50%. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Ave., Chicago 13, Illinois.

MISCELLANEOUS

DOMESTIC CONTROLS and relays repaired equal to new at a small cost. New controls and relays also in stock. Write in for information. UNITED CONTROLS, 342 West 70th St., New York 23, N. Y.

ASRE Meeting--

(Concluded from Page 1, Col. 2) domestic refrigerator engineering, the meeting included a special conference on "New Fields for Mechanical Cooling" devoted chiefly to farm animals.

Open forum discussions on six topics were also programmed.

Prof. M. K. Fahnestock of the University of Illinois opened the "new fields" conference with a discussion of environmental factors affecting human comfort. S. J. Williams, Jr., was chairman.

Studies indicate that sedentary or slightly active healthy men and women normally clothed are comfortable year-round at temperatures of 73° to 77° F. with relative humidity of 25% to 60% and an air movement of about 25 f.p.m., Prof. Fahnestock said.

The ASHAE comfort chart and the effective temperature concept, he declared, over-emphasize the effects of relative humidity on comfort in this range of temperature.

Reactions of domestic cattle to temperature changes were reviewed by Dr. Samuel Brody of the University of Missouri, who pointed out that European cattle have considerable tolerance to cold but not to heat.

Milk Production Drops At 75-80° F. Temperature

Milk production drops sharply when the temperature hits 75° to 80°, he said.

Temperatures above 70° or slightly less seriously affect weight-gain of swine, according to Prof. F. N. Andrews of Purdue university. In experiments at high ambient temperatures, swine having access to a refrigerated slab gained about 0.3 lb. per day more than those having access to shade but not refrigeration, he revealed.

(More details about slab-cooling for swine were covered in a paper "It Pays to Provide Comfort Cooling for Hogs" presented at a technical session.)

With chickens, egg production and egg quality fall off at high temperature, according to Prof. W. O. Wilson of the University of California.

Viewpoints on Built-In Refrigerators, Freezers

Built-in refrigerators and freezers were considered from several viewpoints at the Domestic Refrigerator Engineering Conference chairmanned by F. L. Tarleton of Hotpoint Co.

How built-in appliances affect kitchen planning was reviewed by Prof. Glenn H. Beyer, director of the Housing Research Center of Cornell university.

New concepts in appliance design are resulting from the trend to built-ins, according to Peter Muller-Munk, product designer. Instead of considering a single appliance, the designer must think of the entire kitchen, which, in effect, becomes one appliance, he said.

Similarly, built-ins are changing distribution patterns, indicated Kenneth Cook of American Kitchens Div., Avco Mfg. Corp. To date, builders and contractors have been getting this business, he said.

Cook believes the "ideal situation" would be for the appli-

ance dealer to become the prime contractor on kitchens and farm out work to carpenters, masons, electricians, plumbers, and other tradesmen.

Air Conditioning Meeting Devoted to Room Units

The Air Conditioning Conference was devoted to room units. Ralph A. Gonzalez of Chrysler Airtemp was chairman.

Floyd R. Eck of Reynolds Metals discussed use of aluminum heat transfer surfaces; W. L. McGrath of Carrier, the quietness factor; W. R. Moll of Midwest Mfg. Co. (division of Admiral), casement and in-the-wall units; J. D. Loveley of Chrysler Airtemp, room unit advertising.

A wide variety of topics was covered in papers presented at the regular technical sessions. Reports of these and details of the conferences will appear in future issues of AIR CONDITIONING & REFRIGERATION NEWS.

650 Dealers Boost Room Air Conditioning Sales Exposition-- Under Mitchell's Christmas Merchandising Plan

CHICAGO—A plan for merchandising room air conditioners during the Christmas season has met with "amazing success," according to Howard Haas, vice president in charge of advertising of The Mitchell Mfg. Co., subsidiary of Cory Corp.

More than 650 appliance dealers now are selling Mitchell air conditioners under the company's three-phase pre-season sales plan. Haas said the company originally dared hope for only 200 or 300 dealers to venture into so-called "off-season" selling of air conditioners.

The Mitchell program is based on three major points:

1. The company's "Thirty on a Third" guaranteed sales plan on which Mitchell offers dealers who purchase their units before Dec. 31, 1955, a rebate of 30%

on up to as much as one third of the units that remain unsold after July 27, 1956.

2. Mitchell's offer to pay rental to the dealers for displaying the company's units. Mitchell pays dealers up to \$18 for 6 sq. ft. of display space in the store.

3. Mitchell's Christmas purchase plan under which the consumer makes a down payment for a 1956 Mitchell room air conditioner. In return he gets a lay-a-way on the new unit to be installed early in the spring and an \$80 "Banquet Queen" electric kitchen premium including a \$59.95 electric rotisserie and a \$19.95 electric fry pan.

Stories on the Mitchell plan appeared in Oct. 10 and 17 issues of the NEWS.

(Concluded from Page 1, Col. 5)

components, tools, and testing instruments. Certainly a maximum of assistance is being offered to those who install and service the industry's equipment, if they will only take advantage of it.

There wasn't much talk about prices at the Exposition, but what there was indicated an upward trend. A number of manufacturers, particularly in the components field, have already boosted prices while producers of end use products are in many cases quietly boosting list prices on 1956 models. In most instances the increases are in the area of 5 to 7%, it was estimated.

The next ARI Exposition will be held Nov. 18 through 21, 1957, in Chicago, it was announced.

A Note of Thanks...

The BUSH Manufacturing Company

HEAT TRANSFER PRODUCTS SINCE 1907
WEST HARTFORD 10, CONNECTICUT



To all who visited our booth at the A.R.I. Show. That show, one of the finest I've ever attended, proved once again that ours is a wide-awake, expanding industry. We're proud to be part of it.

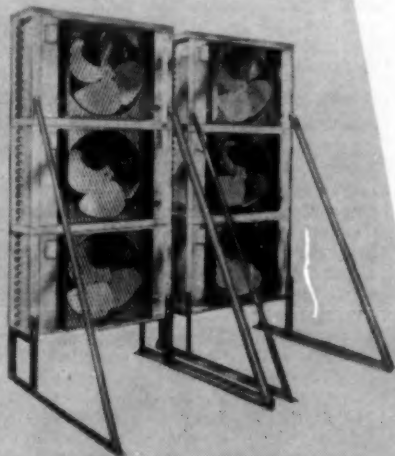
We appreciate the time you took to look over our products and meet our people. A manufacturer puts a great deal of time, money and effort into setting up a booth. Yet without the attendance and attention of you Wholesalers, Contractors and Service Engineers, the manufacturer's expenditure would be wasted. It speaks well for our industry that so many of you took time from your working week to attend the show and keep posted on new developments.

We're certainly pleased with the enthusiastic reception you gave our new products: the Bush 'JF' Jet-Flo unit coolers and 'PFC' Propeller Fan Condensers; the Heat-X Heat Pumps, Cast Cooler Packages, Mufflers and Oil Separators.

We're grateful, too, for your continued recognition of the "proved-in-use" superiority of Inner-Fin coil construction — the patented Bush development which is basic to our new units.

Again, many thanks for making it a great show — for us and for the industry.

Cecil Boling, Pres.
Bush Mfg. Co. • Heat-X, Inc.



BUSH 'PFC' PROPELLER FAN CONDENSER UNITS



HEAT-X HEAT PUMP WITH INNER-FIN CONSTRUCTION

BREWSTER
NEW YORK

heat-x

BUSH MANUFACTURING COMPANY • West Hartford 10, Connecticut

RIVERSIDE • CALIFORNIA

